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SATELLITE IONIZATION GAUGE MEASUREMENTS OF ATMOSPHERIC DENSITY.(U)
AUG 78 J P MCISAAC, R E MCINERNEY, D DELOREY

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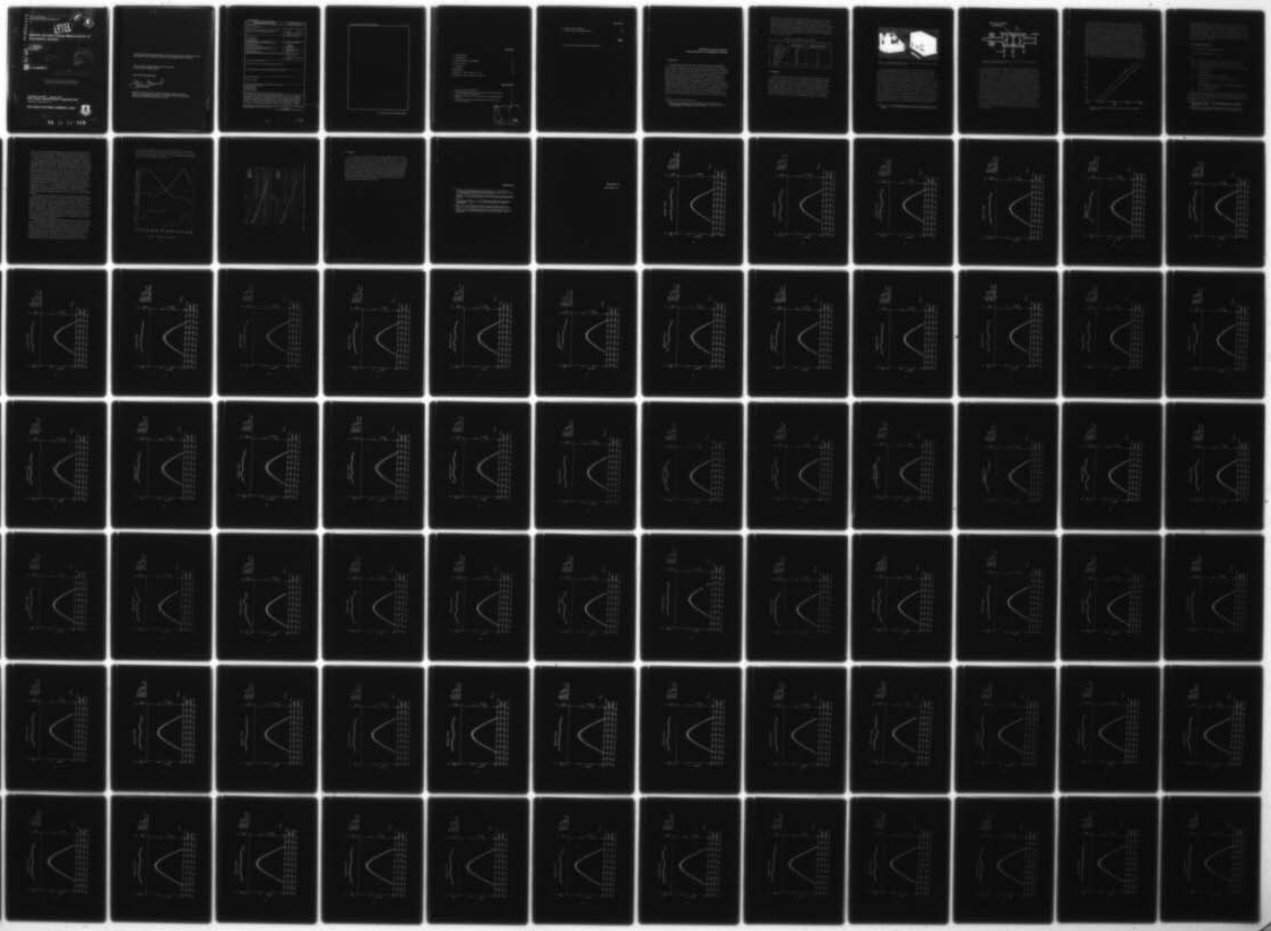

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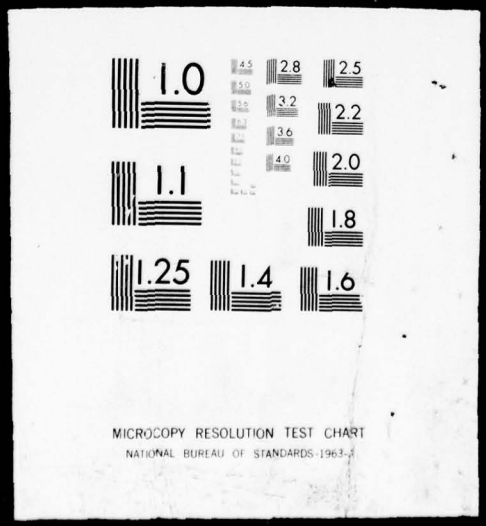

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J. P. McISAAC
R. E. McINERNEY
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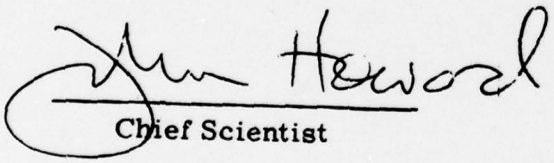

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Experiment details and measurement technique are described for ionization gauge measurements performed onboard the Air Force S3-1 satellite. Atmospheric density data obtained over the second half of the S3-1 satellite flight are presented in the appendices in the form of graphs of atmospheric density versus altitude and universal time. These representative data were acquired during the time period from January 1975 to May 1975. A flight summary of the processed data base is provided in tabular form. See also AD-A032 373

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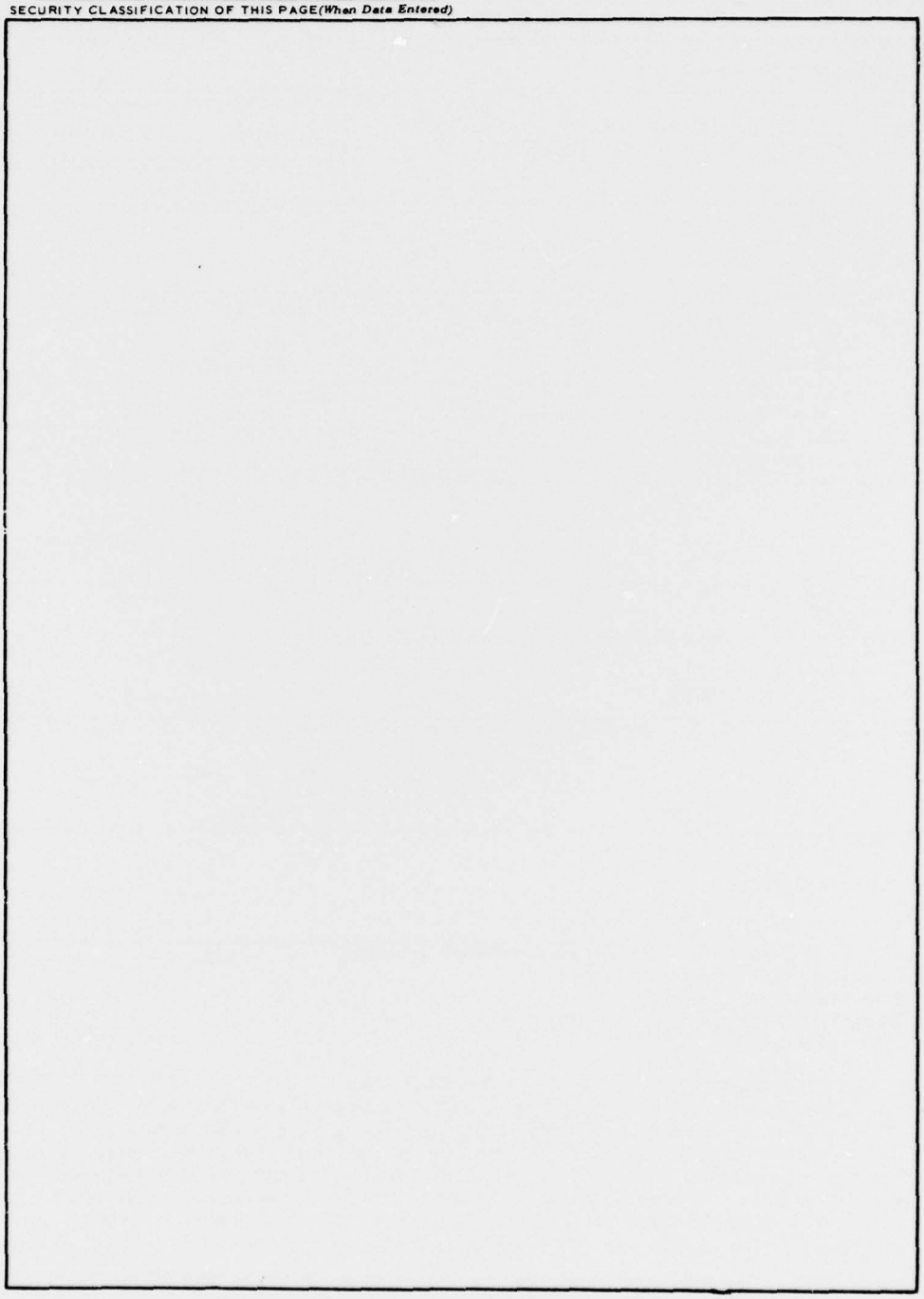

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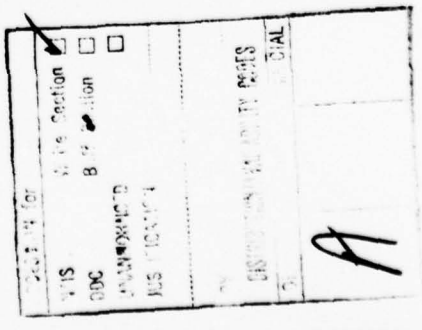

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Satellite Ionization Gauge Measurements of Atmospheric Density

1. INTRODUCTION

Ionization gauge measurements performed onboard the Air Force Satellite (S3-1) launched in October 1974 have been processed and reduced into atmospheric density results. Representative results obtained during the period from November 1974 to January 1975 covering the first 1000 revolutions, were previously reported[1] together with a description of the satellite and experiment operations as well as data reduction procedures and processing techniques. This report supplements the information given in reference 1 and serves to complete the compilation of flight results. Representative samples of flight results obtained after revolution 1000 and up to satellite reentry are included in the appendices. These results were acquired during the period from January 1975 to May 1975. A summary of the total number of processed revolutions provided in terms of a monthly breakdown is shown in Table 1. In order to make this report more comprehensive and complete, a certain amount of the material given in reference 1 has been repeated here. However, the reader would find this report to be more useful if taken together with that

(Received for publication 15 August 1978)

1. McIssac, J.P., Champion, K.S.W., McInerney, R.E., and Delorey, D. (1976) Ionization Gauge Measurements of Atmospheric Density From a Low Altitude Satellite, AFGL Report No. TR-76-0113.

reference, as there is material contained in that report, which is not repeated here. All the data included in the appendices are new and unpublished. Upon the publication of these results, the compilation stage of the S3-1 ionization gauge flight data processing will be completed. With the completion of that task, compiled results along with model and geophysical parameters (magnetic indices, solar flux values, etc) are packed on magnetic tapes for use in later correlation and analysis studies, as well as statistical investigations useful in the development and improvement of atmospheric models.

Table 1. S3-1 Satellite Density Data Base

Month	Total Number of Data Acquisitions	Number of Acquisitions in Appendix this report
November 1974	220	0
December 1974	229	0
January 1975	233	18
February 1975	213	33
March 1975	267	37
April 1975	278	42
May 1975	218	28
Totals	1658	158

2. EXPERIMENT

The flight apparatus consisted of two units referred to as the sensor and electronics units. The sensor unit housed a cold-cathode ionization gauge, its magnet and physical mechanism required to open the gauge once it was placed into orbit. Contained in the electronics unit were the operating circuits. Included were amplifiers, signal conditioners, filters, switches, timers, and high and low voltage power supplies. Figure 1 shows the experiment. On the left in the figure is the ionization gauge sensor with its cover removed. The cover also serves as a magnetic shield confining stray field lines within the box perimeter. To the right in Figure 1 is the auxiliary electronics box containing the circuits described above.

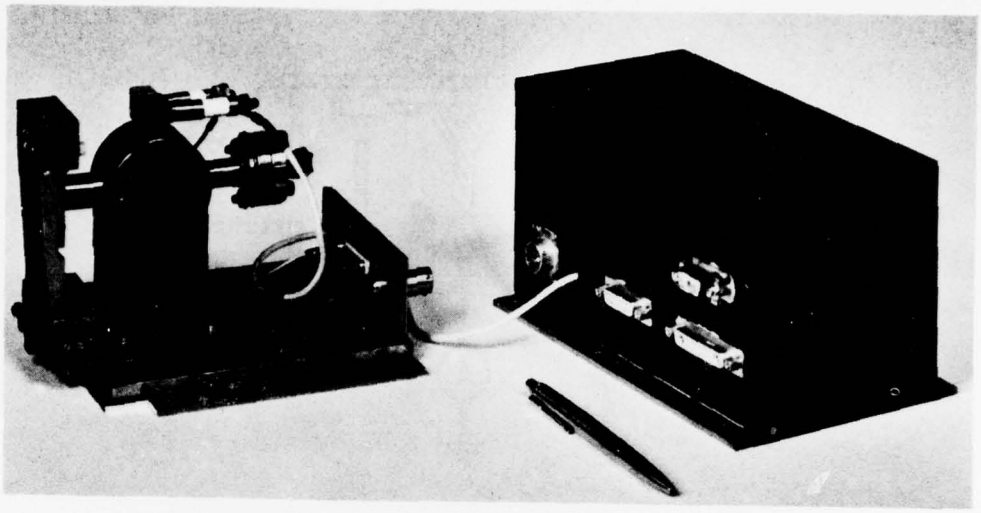

Figure 1. Ionization Gauge Flight System. Shown to the left is the sensor unit with its magnetic shield cover removed

A total of seven gauges were fabricated, tested and calibrated by GCA Corporation, Bedford, MA. The gauges are a modified version of the R-5 gauge, cold-cathode magnetron, developed for NASA by GCA.[2] The principal modification performed on the R-5 gauge was to restructure the gauge envelope in order to accommodate an additional second tubulation. Figure 2 shows a schematic view of the gauge and illustrates the internal arrangement of the gauge electrodes as well as the configuration of the two tubulations. The flight sampling tubulation is shown on the right in the figure, and the test tubulation is shown on the left. Each tubulation, or connection, serves a particular designed function. The test tubulation with its demountable flange fitting is used for test, calibration and evacuation purposes where by nature of the requirement a non-permanent, replaceable connection would be employed. With such a connection other functions, as well, can be performed. As the gauge has been evacuated and sealed before delivery to the spacecraft contractor, the need for a vacuum pump station to evacuate the gauge during satellite payload operating tests has been eliminated. Here the test tubulation

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2. Kreisman, W. (1964) Development of Cold Cathode Ionization Gauges for Space Vehicles, GCA Corporation Report No. 64-17-N, Part I and No. 64-19-N, Part II.

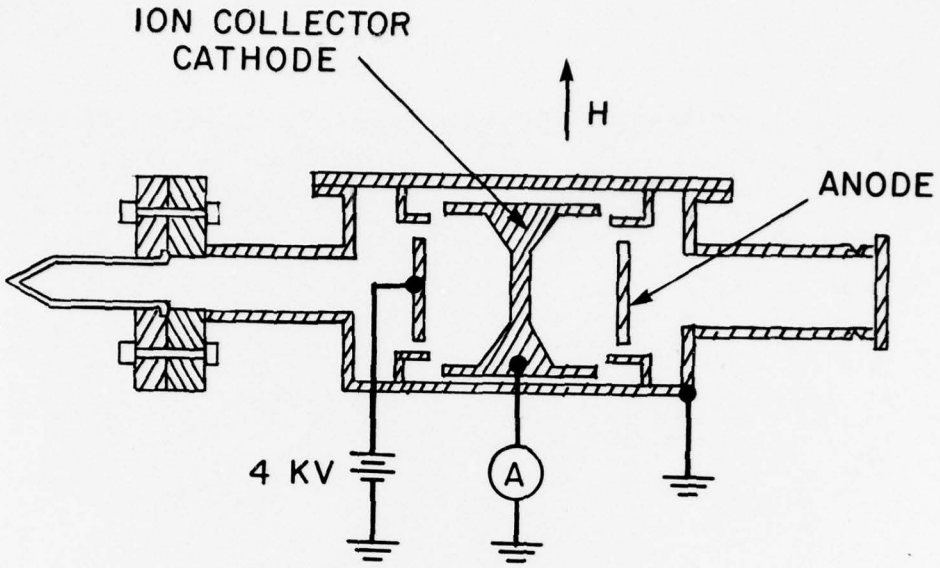

Figure 2. Simplified Schematic Diagram of Ionization Gauge Envelope and Internal Electrode Configuration

provides a backup capability by supplying the means for reconditioning the gauge in the event the gauge loses its vacuum, or, due to the long duration of satellite test and integration programs, increases to an unacceptable operating level. This buildup of internal gauge pressure can be attributed to a variety of causes individually or collectively, as, for example, outgassing, desorption, sputtering and accumulated leakage from long periods of non-operation and storage. In the case where internal pressure does reach a high unacceptable level, the test tubulation together with a simple portable vacuum system provides the capability for quick and efficient evacuation, test and resealing. On the other hand, the flight tubulation is a hard sealed (once broken cannot be resealed) connection that is installed during gauge fabrication and remains intact until the gauge is placed into orbit. When orbit is obtained, the head sealed connection is explosively ruptured thereby opening and exposing the gauge to the ambient atmosphere. The uncapping or opening process breaks the tubulation at a predetermined interface thus assuring that the in-orbit sampling geometry (length and radius) is precisely defined and known. This is accomplished by machining a "break-off" groove around the sampling tube's circumference reducing the tube wall thickness at the groove to 0.005 in. The break location, therefore, is confined to the groove. As elsewhere, the wall thickness is 0.1250 in.

Typical calibrations for nitrogen and helium gases are shown in Figure 3. Attempts to calibrate with oxygen proved to be troublesome and results for the most part were unsatisfactory. Some success, however, was obtained using a specially fabricated gauge containing gold coated electrodes and internal surfaces. Results obtained from this gauge produced calibrations for both N_2 and O_2, each of which displayed hysteresis effects, although untreated gauges, those without gold surfaces, displayed insignificant hysteresis effects when calibrated with nitrogen gas. The hysteresis effect is defined as the differences in response that can occur in calibration depending upon in which direction the steady state, calibration, pressure levels are reached; that is, whether they are reached by increasing calibration system pressure as opposed to decreasing system pressure. It was noted that hysteresis effects were largest at the lowest system pressures suggesting that, at least, part of the effect was due to gas losses in the vacuum station. Differences in response between the two gases, nitrogen and oxygen, for the most part were within ±15 percent of each other. If the hysteresis effect for each gas is removed, that is, each individual gas calibration is formed by averaging the

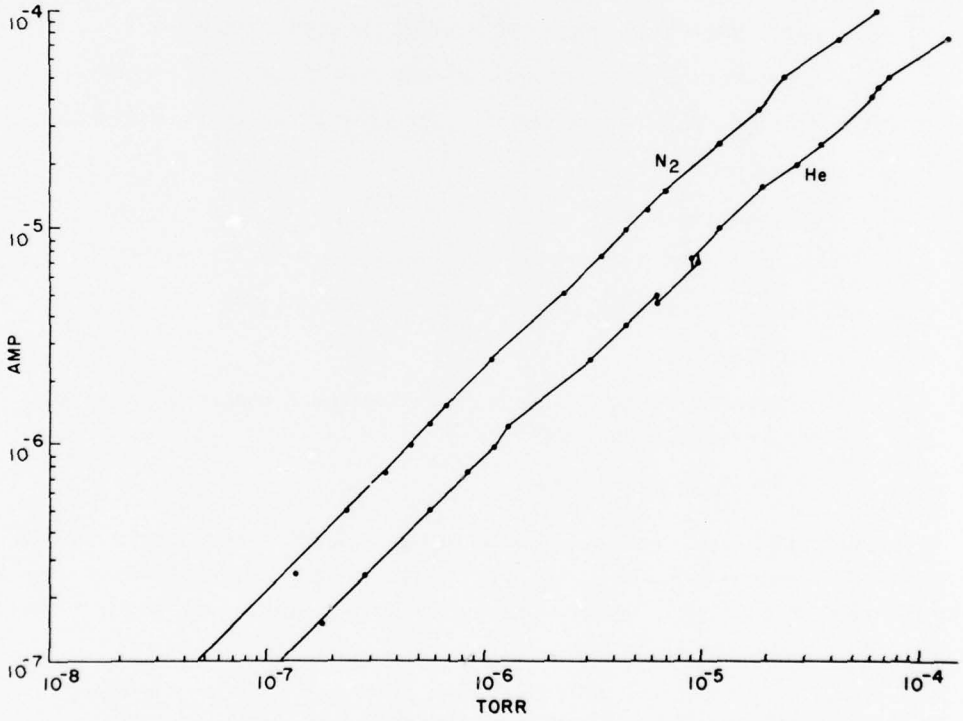

Figure 3. Laboratory Calibration Curves Obtained for Nitrogen and Helium Gases

responses obtained during the increasing system pressure cycles with those obtained during the decreasing pressure cycles, then the differences for the two gases, N_2 and O_2, becomes less then 6 percent. The calibration for oxygen only covered the range from 1×10^{-6} to 1×10^{-5} torr so that the above discussion is relevant only to that range of values. The above does indicate that because of the small observed differences, serious errors are not introduced into the data reduction results if one assumes equal sensitivities for nitrogen and oxygen as has been done here and elsewhere, Ching.[3]

3. DATA REDUCTION TECHNIQUE

The relationship used for data reduction is:

$$p_g = (T_g/T_a)^{1/2} \; p_a \; R(S, D, \alpha) \; \delta + p_{out} \qquad (1)$$

where

p_g, p_a = gauge internal pressure and ambient pressure respectively.

T_g, T_a = absolute gauge wall temperature and ambient gas respectively.

$R(S, D, \alpha)$ = gauge sampling tube factor, a function of transmission probabilities.

S = speed ratio U/v_m.

U = satellite velocity.

v_m = most probable velocity of the ambient gas.

D = diameter to length ratio of the gauge sampling tube.

α = attack angle.

δ = recombination factor, for no recombination δ equals unit and for total recombination equals $\sqrt{2}$.

p_{out} = residual gauge pressure.

Tabulated values and the theory for the $R(S, D, \alpha)$ function have been published by Hughes.[4] A more detailed description and discussion of Eq. (1) above is contained in reference 1. Once ambient pressure has been determined, ambient density is obtained using the ideal gas law:

3. Ching, B.K., and Palmer, J. (1974) Upper Atmospheric Density Inferred From Magnetron Data, Aerospace Corporation Report No. TR-0074 (4260-10)-7.

4. Hughes, P.C. (1965) Theory for the Free Molecular Impact Probe at an Arbitrary Angle of Attack, University of Toronto UTIAS Report No. 103.

$$\rho_a = \frac{M}{R_m} \frac{1}{T_a} p_a \qquad (2)$$

where

ρ_a, p_a, T_a = ambient density, pressure and absolute temperature respectively.

M = mean molecular mass of ambient gas.

R_m = Universal gas constant.

Data reduction involved the processing of the ionization gauge measurements to obtain internal gauge pressures (p_g) as a function of attack angle over each satellite spin cycle. The gauge dependence upon attack angles is contained in the R function; hence a linear least squares fit of the following form was performed over each half of the spin cycle:

$$p_g = a\, R(S, D, \alpha) + b \qquad (3)$$

Figure 4 shows an example of the fit obtained in the manner described above. From such fits the value of a and b are obtained. The slope of the least squares fit involving p_g and R is:

$$a = (T_g/T_a)^{1/2}\, p_a\, \delta \quad . \qquad (4)$$

As all the parameters in the above equation can be ascertained, one can solve for the ambient pressure. Some assumptions have to be made concerning T_a and δ and values for these parameters are obtained under the appropriate conditions from atmospheric models. For this data the Jacchia 1971 model[5] has been used. It should be noted, however, that the dependence of p_a upon the above two parameters is at its greatest, a square root dependence. For each spin cycle two ambient pressure values are determined one from data obtained as the gauge approaches ram and the second as it moves away from ram. The two ambient pressure values are averaged producing a single value for each spin cycle which is assigned the altitude at which the minimum attack angle for that spin cycle occurs. The pressure is converted to density by application of the ideal gas law, Eq. (2). A complete orbital acquisition, is processed in the above manner so that the final output in terms of processed data per satellite acquisition is one density determination per

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5. Jacchia, L. G. (1971) Revised Static Models of Thermosphere and Exosphere With Empirical Temperature Profiles, Smithsonian Astrophys. Obs. Report 332.

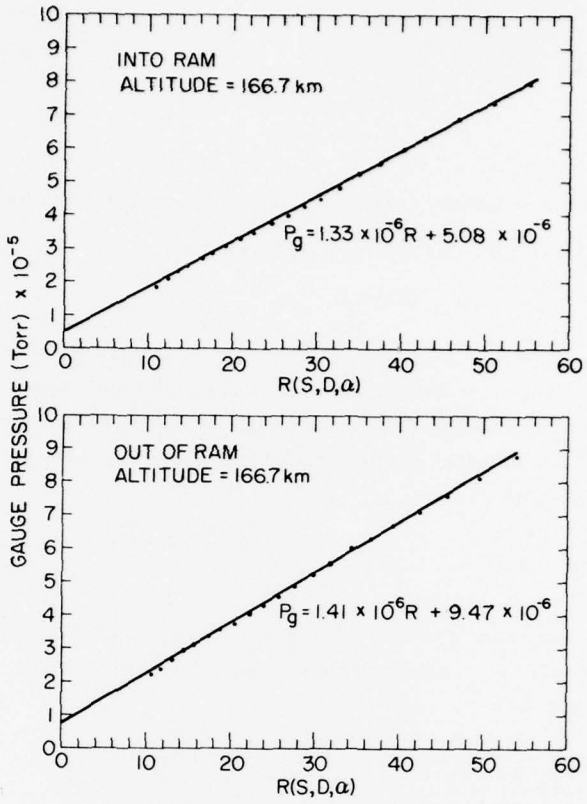


Figure 4. Least Squares Fit to Satellite Data Taken Over a Spin Cycle at 166.7 km Altitude

spin cycle. An orbital data acquisition, which for this flight was a nominal 20 min recording centered at perigee, would total about 100 spin cycles. Hence, 100 density determinations (one per spin cycle) with varying altitudinal resolution, less than 0.5 km around perigee and 10 km at 400 km altitude were obtained. The reader is again referred to reference 1 for a more detailed description and explanation of the parameters, theory of measurement and flight operations.

4. DATA RESULTS

Measurements are presented in the two appendices as altitude/density plots and altitude/universal time plots. The data given are not all inclusive but rather representative samples taken over the satellite's life during the four month period from 24 January 1975 to 24 May 1975. Although the appendices are lengthy, the

data shown in them represents slightly less than 10 percent of the total data base accrued from the satellite flight. Taken together with the data published in reference 1, their combined total still represents only 25 percent of the data base.

Table 1 provides a tabulation on a monthly basis of both the data obtained over the entire flight as well as the data given in the attached appendices. Figure 5 is a graph of satellite positional data. This figure defines satellite location in terms of perigee location, with local time, latitude and altitude of the satellite's perigee given as a function of date and revolution number. In Appendix A plots of density (gm/cc) vs universal time are shown. The circle values are values of atmospheric density obtained from gauge measurements, and the crosses are the appropriate Jacchia 71 model values computed for the same conditions of the measurements. In the upper portion of the same plots, the crosses now denote the ratios of the measured gauge determined densities to the J71 model values. It should be noted here that the scale on the upper portion ratio plots does not remain the same throughout the appendix. In some data the scale for the ratio plots was expanded to range from 0.25 to 1.75. The sunshade nomenclature shown in the right hand legend gives the time (U.T.) when the satellite was in sunlight and darkness, respectively. Other designations shown in ordinates, abscissa and legend are self-explanatory with the possible exception of "Geom. Lat." which is geomagnetic latitude.

In the altitude plots of Appendix B, both the circle and cross symbols denote gauge measurements; the circles are measurements performed during the downleg portion of the acquisition, that is, as the satellite descended in altitude towards perigee and the crosses are for upleg measurements when the satellite was ascending in altitude away from perigee. The solid lines shown are least squares fits through the data points. Some altitude plots as for example the one shown in Figure 6, required further processing in the form of noise editing. Figure 6 shows a "before" and "after" sample of the effect of noise data point deletion upon the least squares fit of the upleg and downleg profiles. As the least squares fit coefficients are incorporated into the computer data base files, it is especially important that meaningful and valid fits be performed.

At higher altitudes the downleg (circles) and upleg (crosses) profiles of a large number of the Appendix B plots exhibit a divergence. A major portion of this divergence is due to the spatial separation of the measurements. For example, initially perigee was located in the northern sunlit hemisphere and precessing northward towards the pole. In this case the downleg measurements are performed at high northern latitudes, whereas the upleg measurements are performed at middle and equatorial latitudes nearer to the sub-solar point. Continued precession of perigee produces downleg measurements at high northern latitudes during night, and upleg measurements at high northern latitudes during the day. In the first

case above, the divergence would reflect higher upleg densities that would be associated with the higher temperatures due to the proximity of the solar bulge. In the second case, downleg measurements reflect lower nighttime temperatures as opposed to upleg daylight measurements.

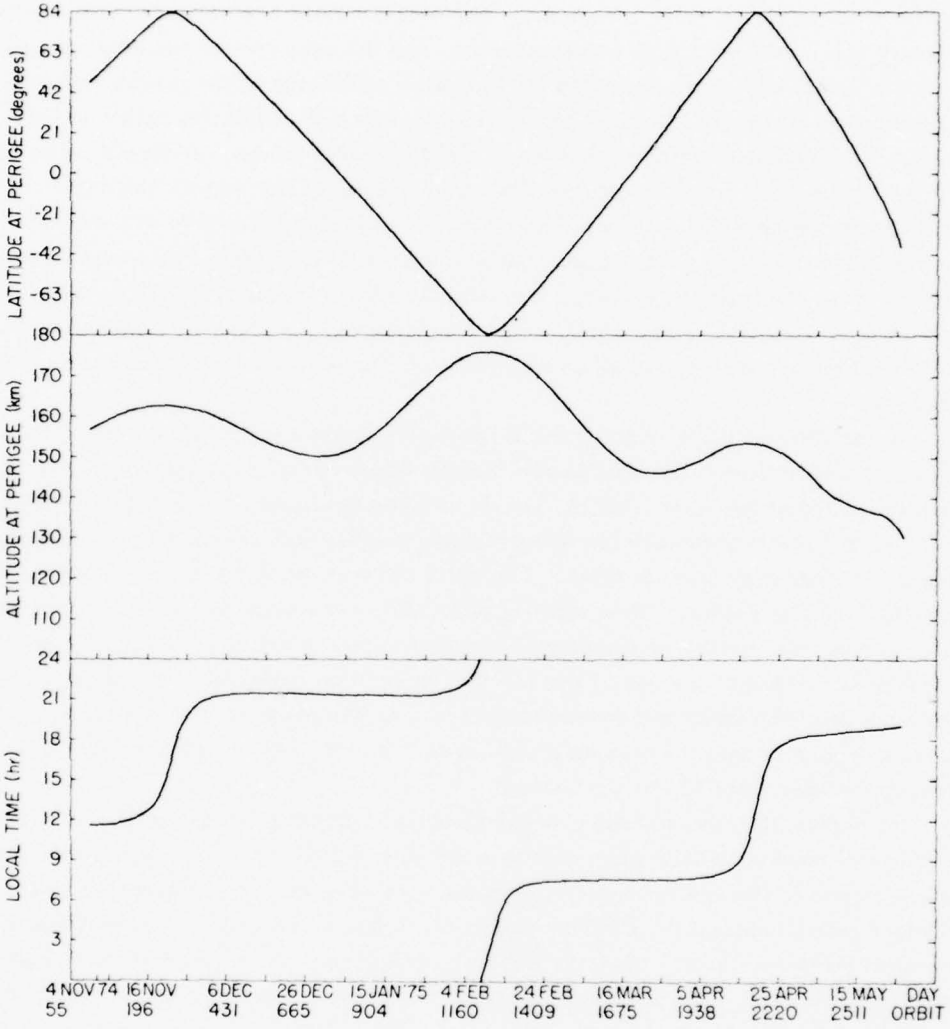


Figure 5. Satellite Location Diagram

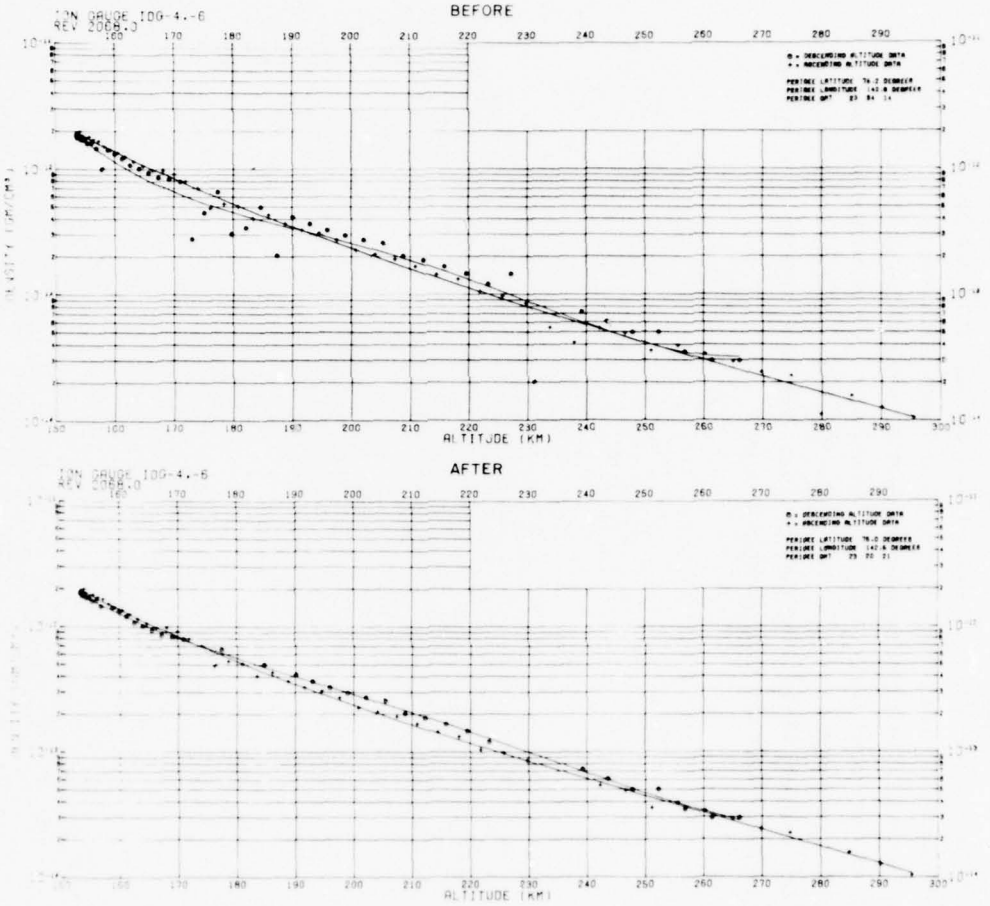


Figure 6. Ambient Density vs Altitude Profile, Before and After Noise Editing Procedure

5. SUMMARY

In this report the compilation of the S3-1 satellite ionization gauge measurements is completed. Representative samples, totalling 158 acquisitions, of neutral density measurements performed over an altitude range, in some cases, as low as 135 km up to 325 km are given in the appendices. The time period over which these measurements were obtained extended from January 1975 into May 1975. Results were obtained over both the southern and northern hemispheres; during the winter season in the southern hemisphere and during spring in the northern hemisphere. Details on the experiment, calibration procedures, measurement technique and data reduction method are described. The total data set generated as a result of this flight exceeds 1650 orbital acquisitions. The time duration of an average orbital acquisition was approximately 20 min.

References

1. McIsaac, J. P., Champion, K. S. W., McInerney, R. E., and Delorey, D. (1976) Ionization Gauge Measurements of Atmospheric Density From a Low Altitude Satellite, AFGL Report No. TR-76-0113.

2. Kreisman, W. (1964) Development of Cold Cathods Ionization Gauges for Space Vehicles, GCA Corporation Report No. 64-17-N, Part I and No. 64-19-N, Part II.

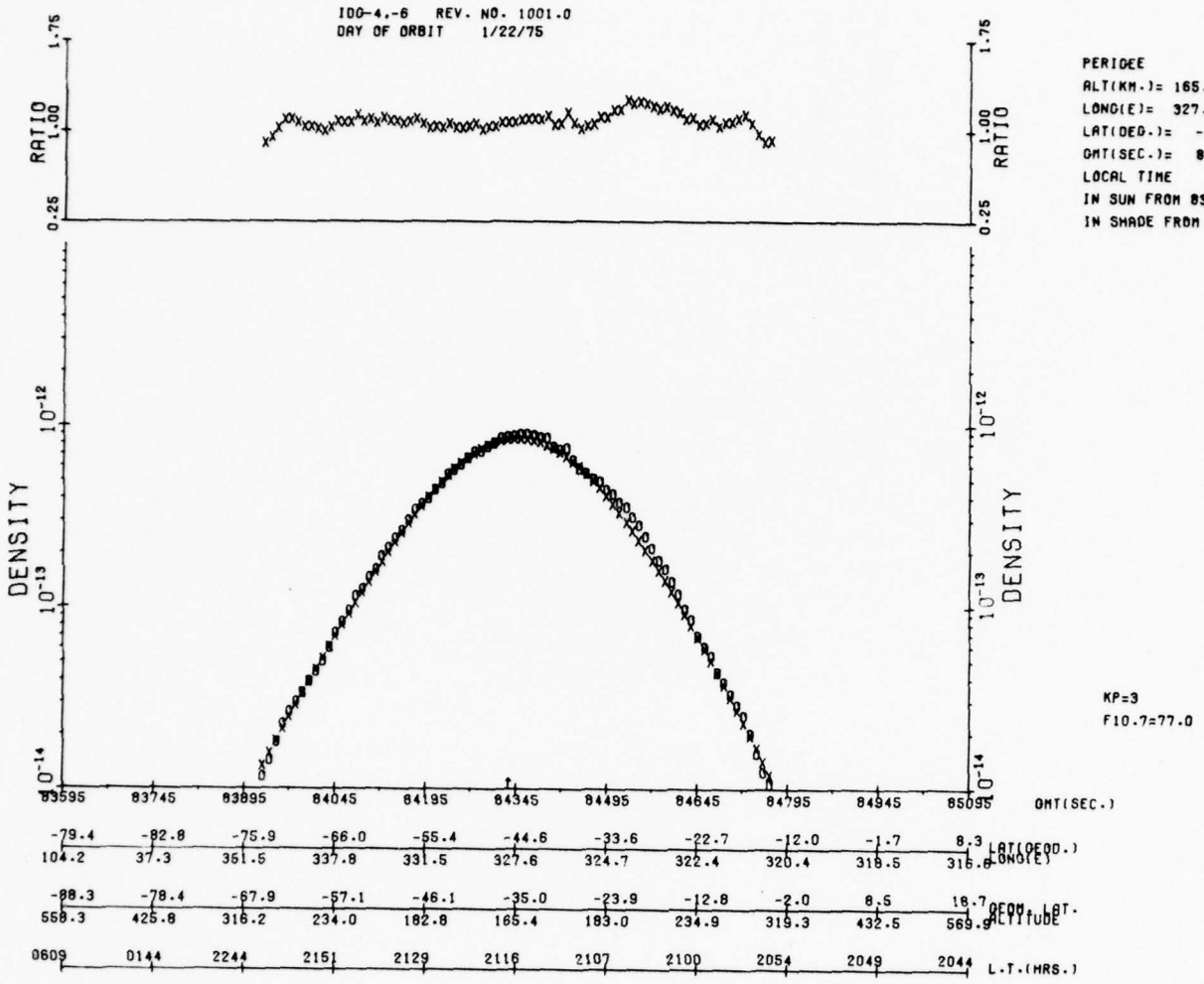
3. Ching, B. K., and Palmer, J. (1974) Upper Atmospheric Density Inferred From Magnetron Data, Aerospace Corporation Report No. TR-0074 (4260-10)-7.

4. Hughes, P. C. (1965) Theory for the Free Molecular Impact Probe at an Arbitrary Angle of Attack, University of Toronto UTIAS Report No. 103.

5. Jacchia, L. G. (1971) Revised Static Models of Thermosphere and Exosphere With Empirical Temperature Profiles, Smithsonian Astrophys. Obs. Report 332.

Appendix A

Plots of Density vs U.T.



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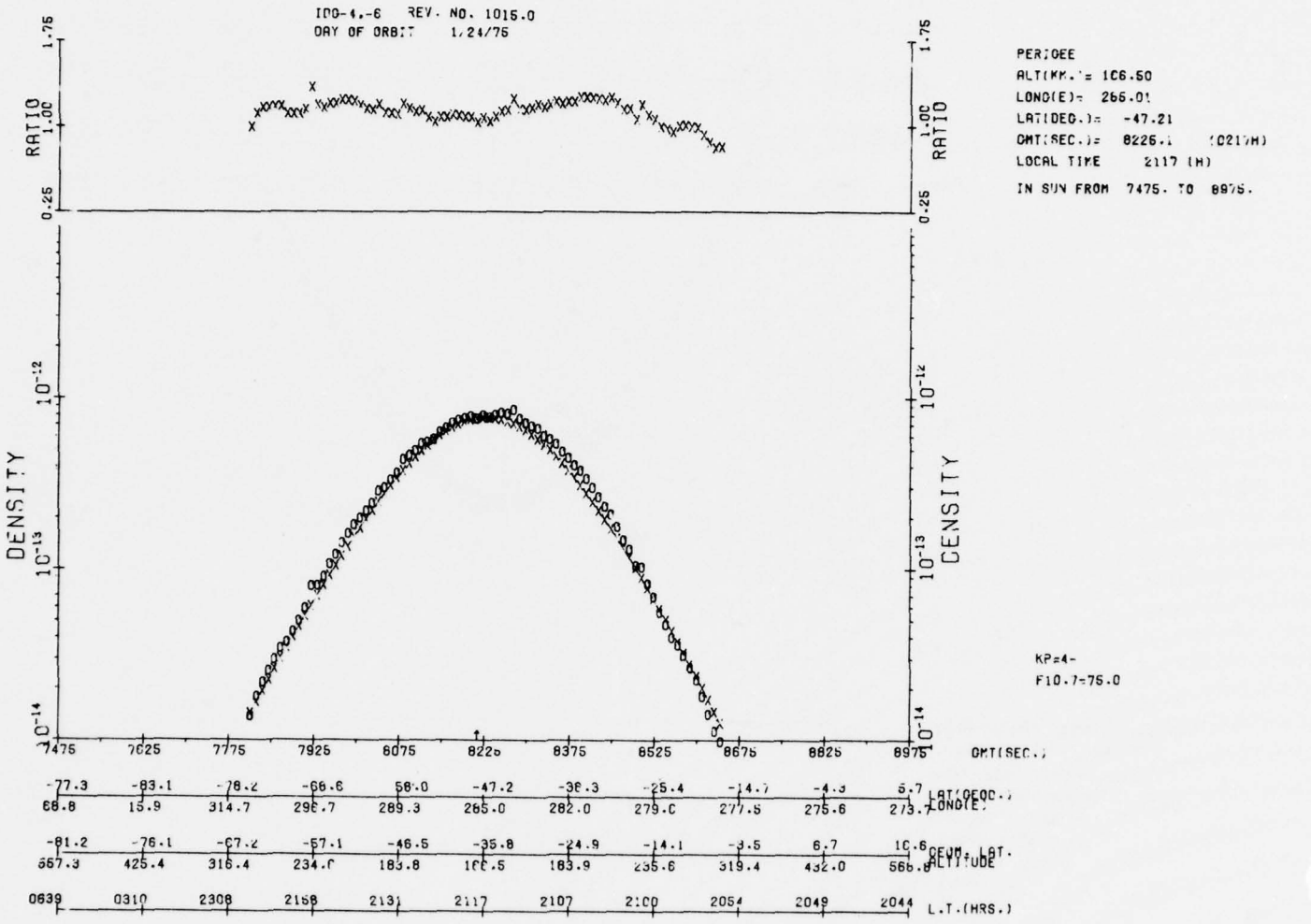
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68.8 15.9 314.7 298.7 289.3 285.0 282.0 279.0 277.5 275.6 273.7 LONG(E.)
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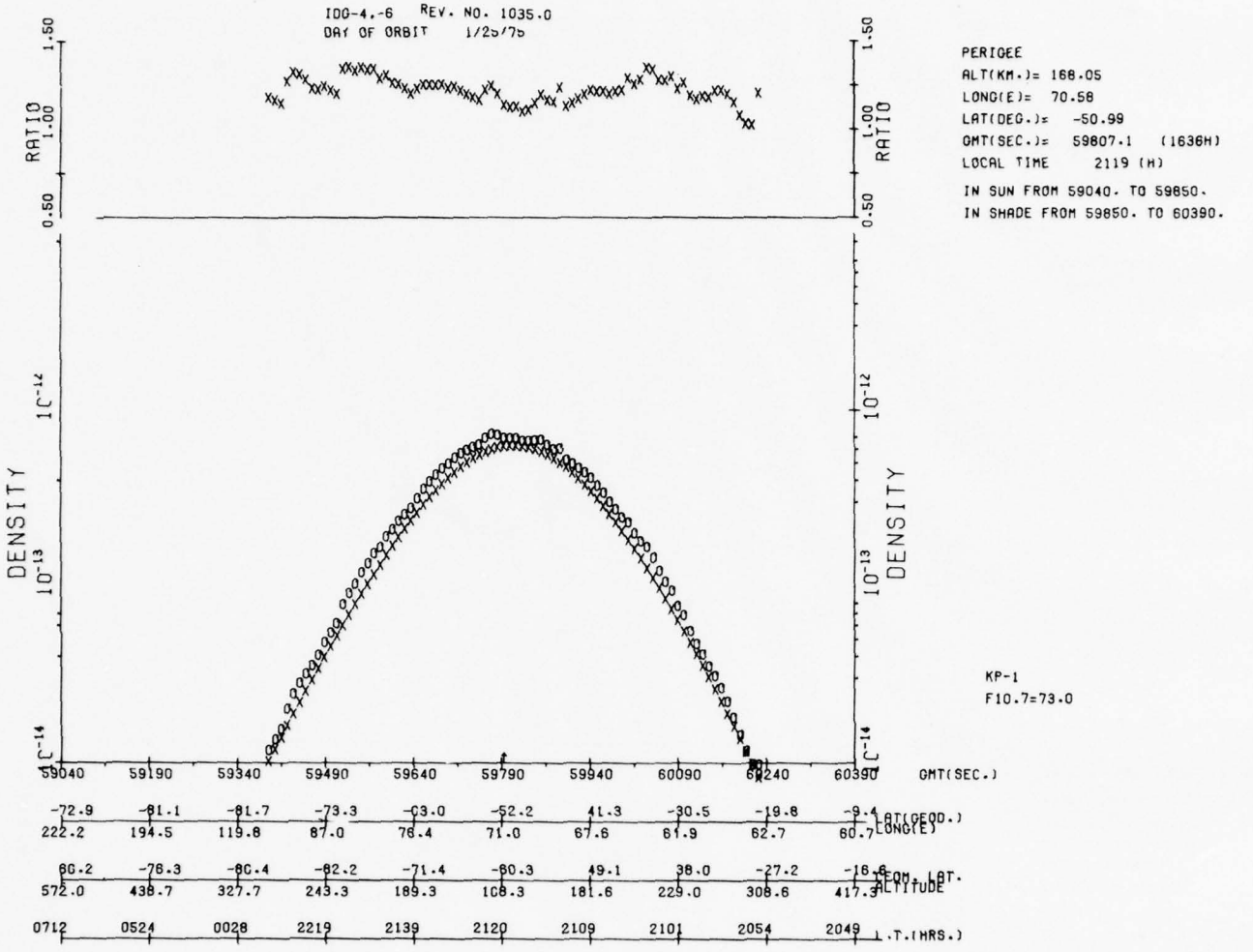
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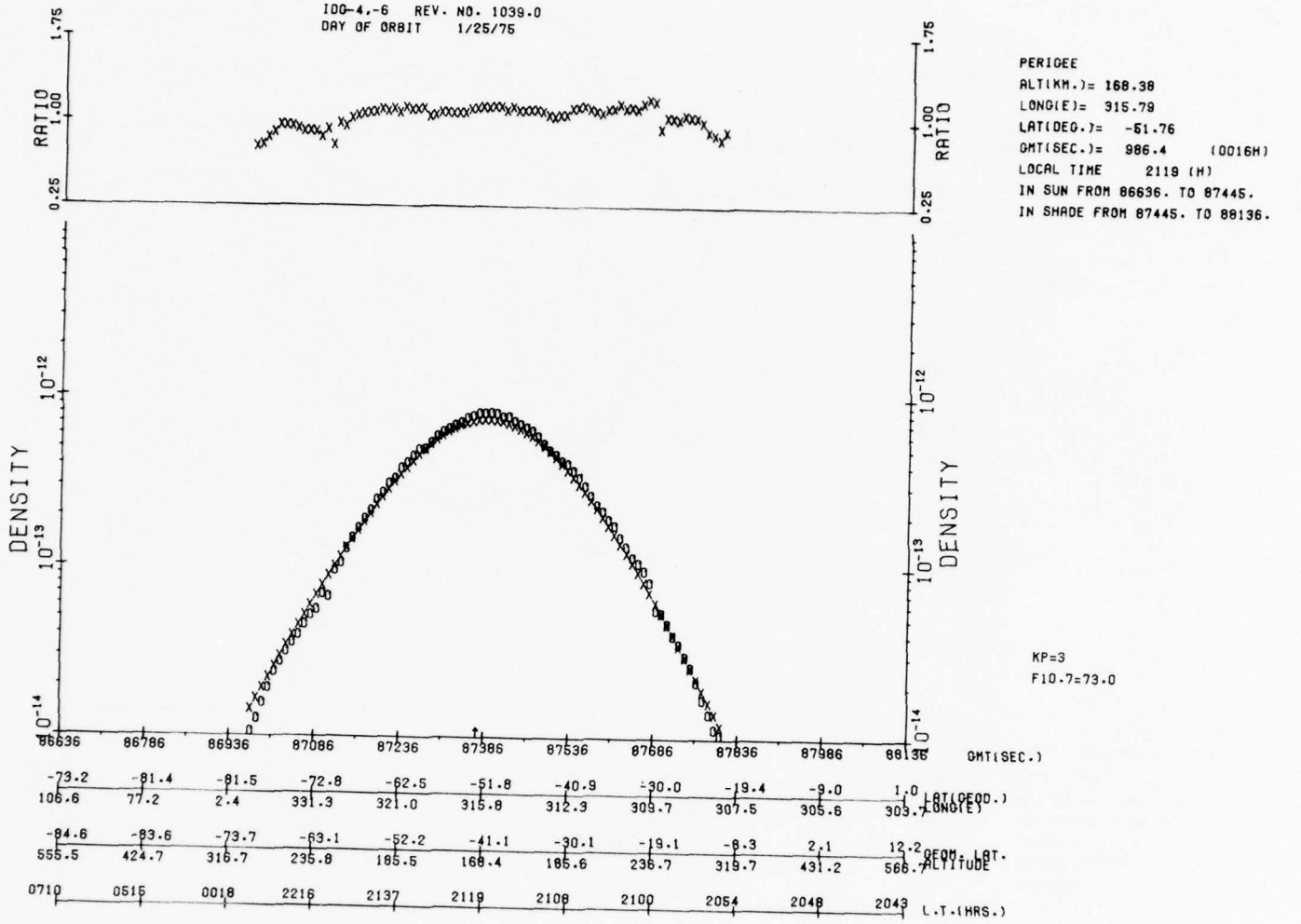
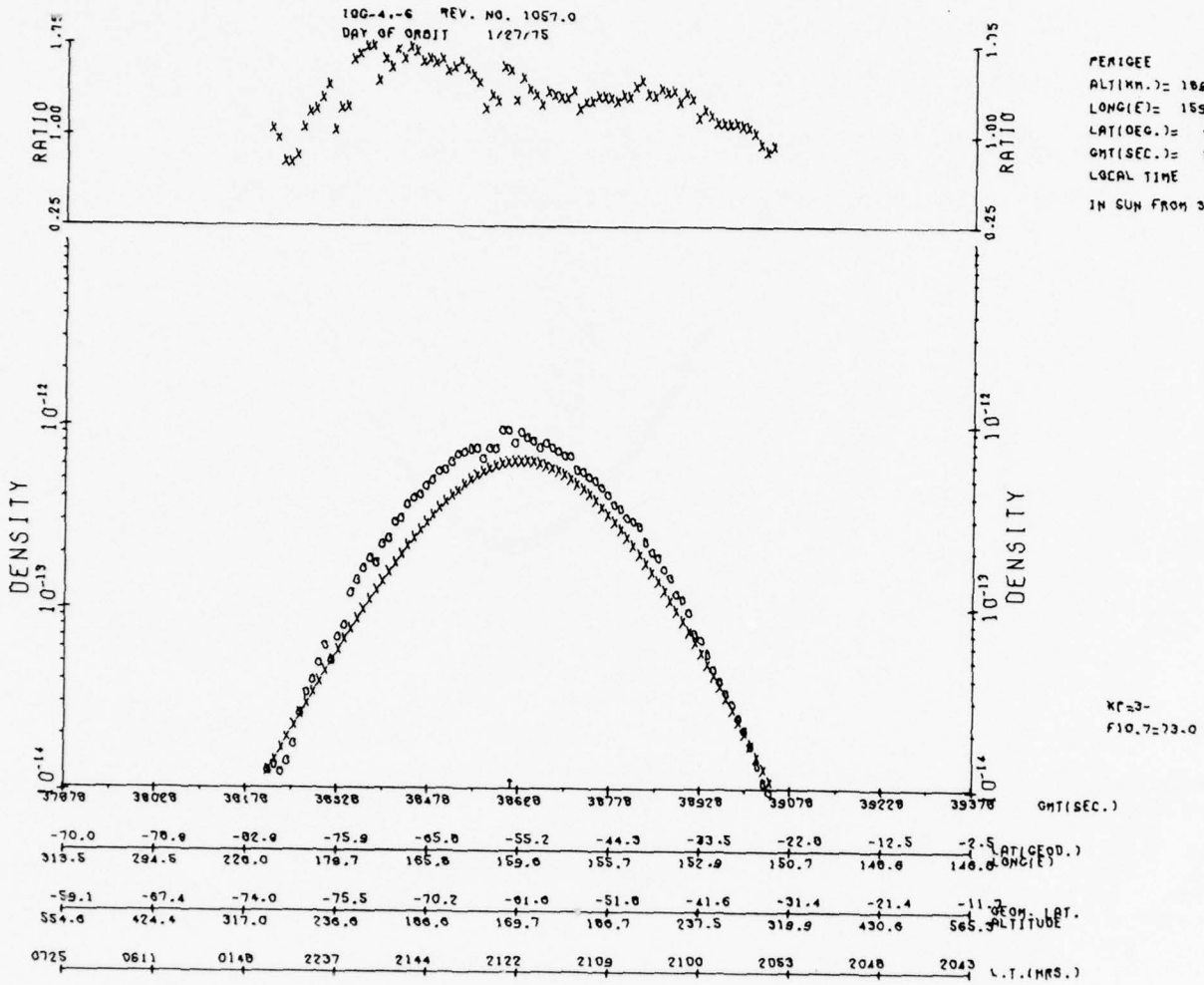
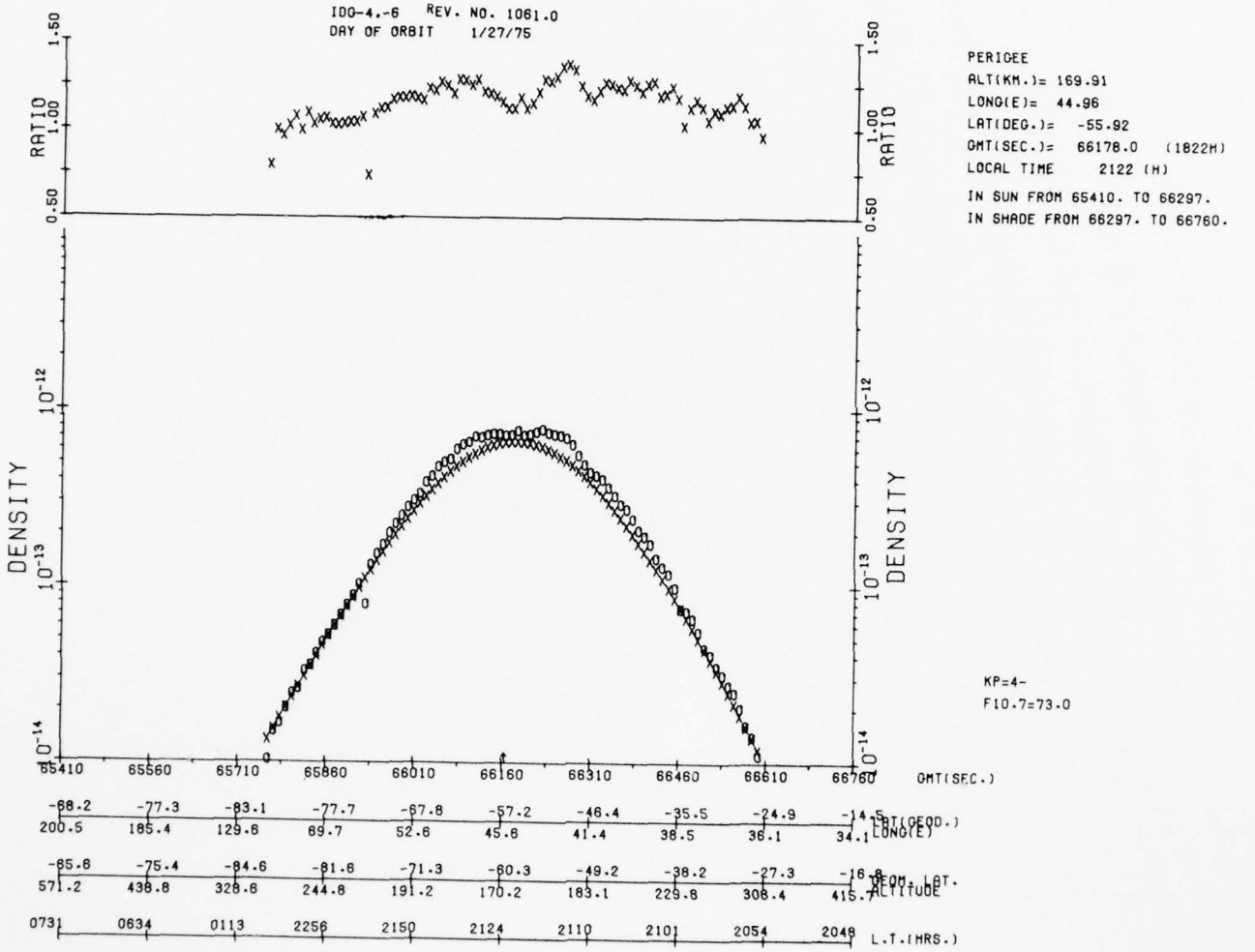
572.0 438.7 327.7 243.3 189.3 168.3 181.6 229.0 308.6 417.3 ALTITUDE
0712 0524 0028 2219 2139 2120 2109 2101 2054 2049 L.T.(HRS.)


IDG-4,-6 REV. NO. 1039.0
DAY OF ORBIT 1/25/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 168.38
LONG(E)= 315.79
LAT(DEG.)= -51.76
GMT(SEC.)= 986.4 (0016H)
LOCAL TIME 2119 (H)
IN SUN FROM 86636. TO 87445.
IN SHADE FROM 87445. TO 88136.
KP=3
F10.7=73.0
86636 86786 86936 87086 87236 87386 87536 87686 87836 87986 88136 GMT(SEC.)
-73.2 -81.4 -81.5 -72.8 -62.5 -51.8 -40.9 -30.0 -19.4 -9.0 1.0 LAT(DEGD.)
106.6 77.2 2.4 331.3 321.0 315.8 312.3 309.7 307.5 305.6 303.7 LONG(E)
-84.6 -83.6 -73.7 -63.1 -52.2 -41.1 -30.1 -19.1 -8.3 2.1 12.2 GEOM. LAT.
555.5 424.7 316.7 235.8 185.5 168.4 165.6 236.7 319.7 431.2 566.7 ALTITUDE
0710 0515 0018 2216 2137 2119 2108 2100 2054 2048 2043 L.T.(HRS.)

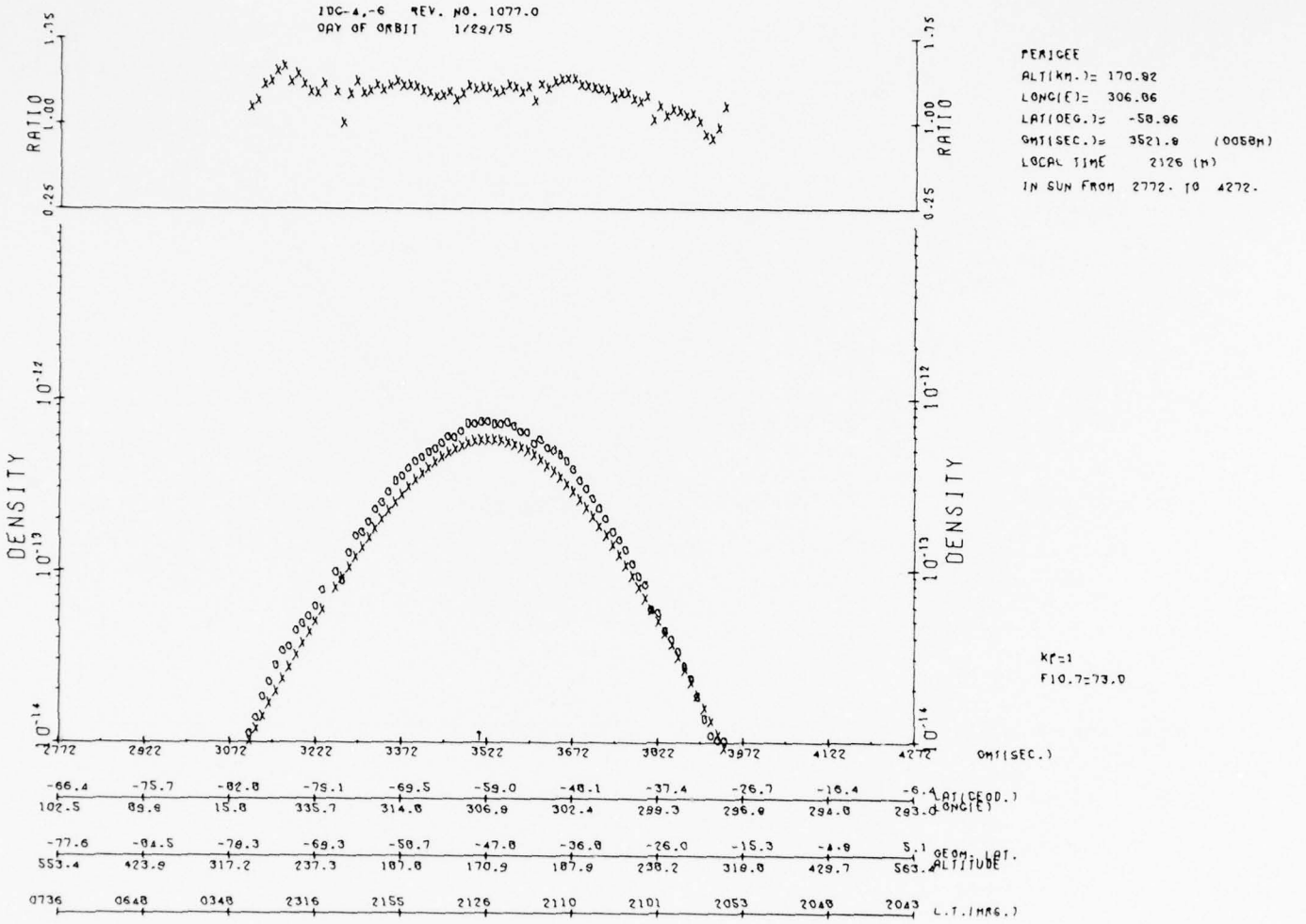

IGG-4.-6 REV. NO. 1057.0
DAY OF ORBIT 1/27/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
37878 38028 38178 38328 38478 38628 38778 38928 39078 39228 39378
GMT(SEC.)
-70.0 -78.9 -82.9 -75.9 -65.8 -55.2 -44.3 -33.5 -22.8 -12.5 -2.5
313.5 294.6 220.0 178.7 165.8 159.6 155.7 152.9 150.7 148.6 146.6
LAT(GEOD.)
LONG(E)
-59.1 -67.4 -74.0 -75.5 -70.2 -61.6 -51.8 -41.6 -31.4 -21.4 -11.2
554.6 424.4 317.0 236.6 186.6 169.7 166.7 237.5 318.9 430.6 565.3
GEOM. LAT.
ALTITUDE
0725 0611 0148 2237 2144 2122 2109 2100 2053 2048 2043
L.T.(HRS.)
PERIGEE
ALT(KM.)= 168.66
LONG(E)= 159.58
LAT(DEG.)= -55.16
GMT(SEC.)= 38628.1 (10.73H)
LOCAL TIME 2122 (H)
IN SUN FROM 37878. TO 38378.
KP=3-
F10.7=73.0

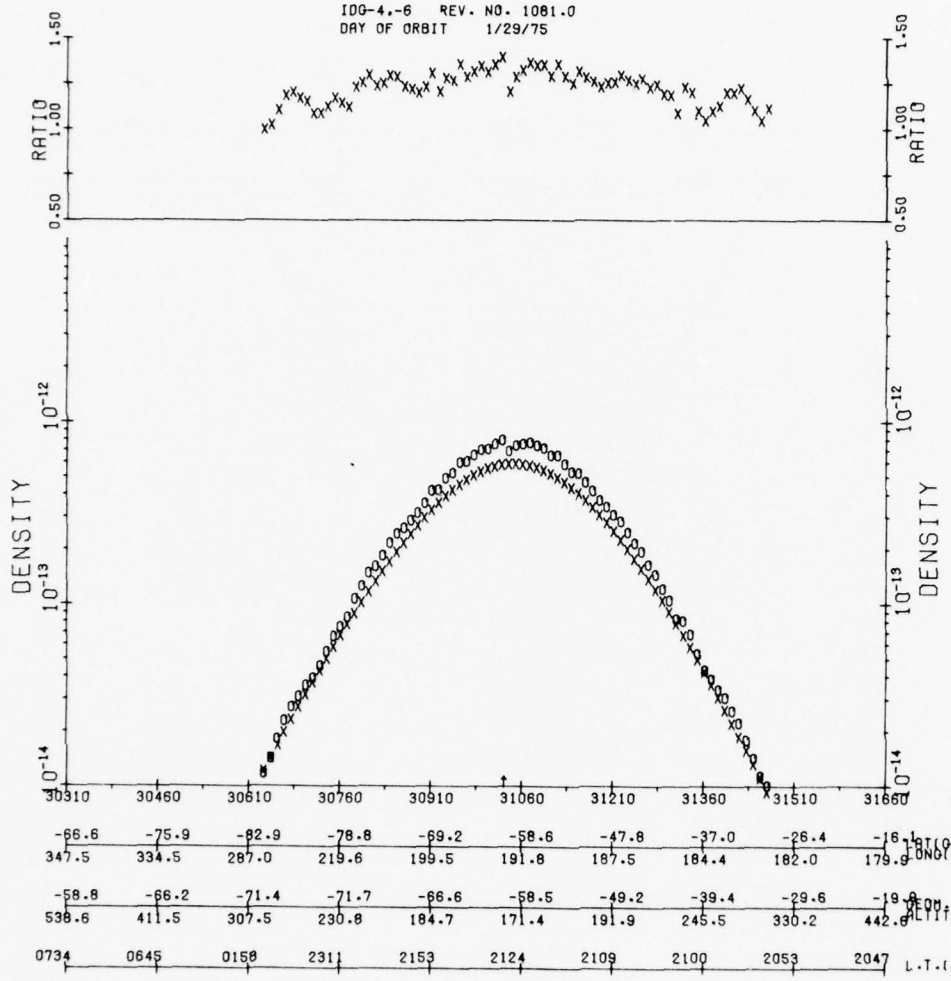


PERIGEE
ALT(KM.)= 169.91
LONG(E)= 44.96
LAT(DEG.)= -55.92
GMT(SEC.)= 66178.0 (1822H)
LOCAL TIME 2122 (H)

IN SUN FROM 65410. TO 66297.
IN SHADE FROM 66297. TO 66760.

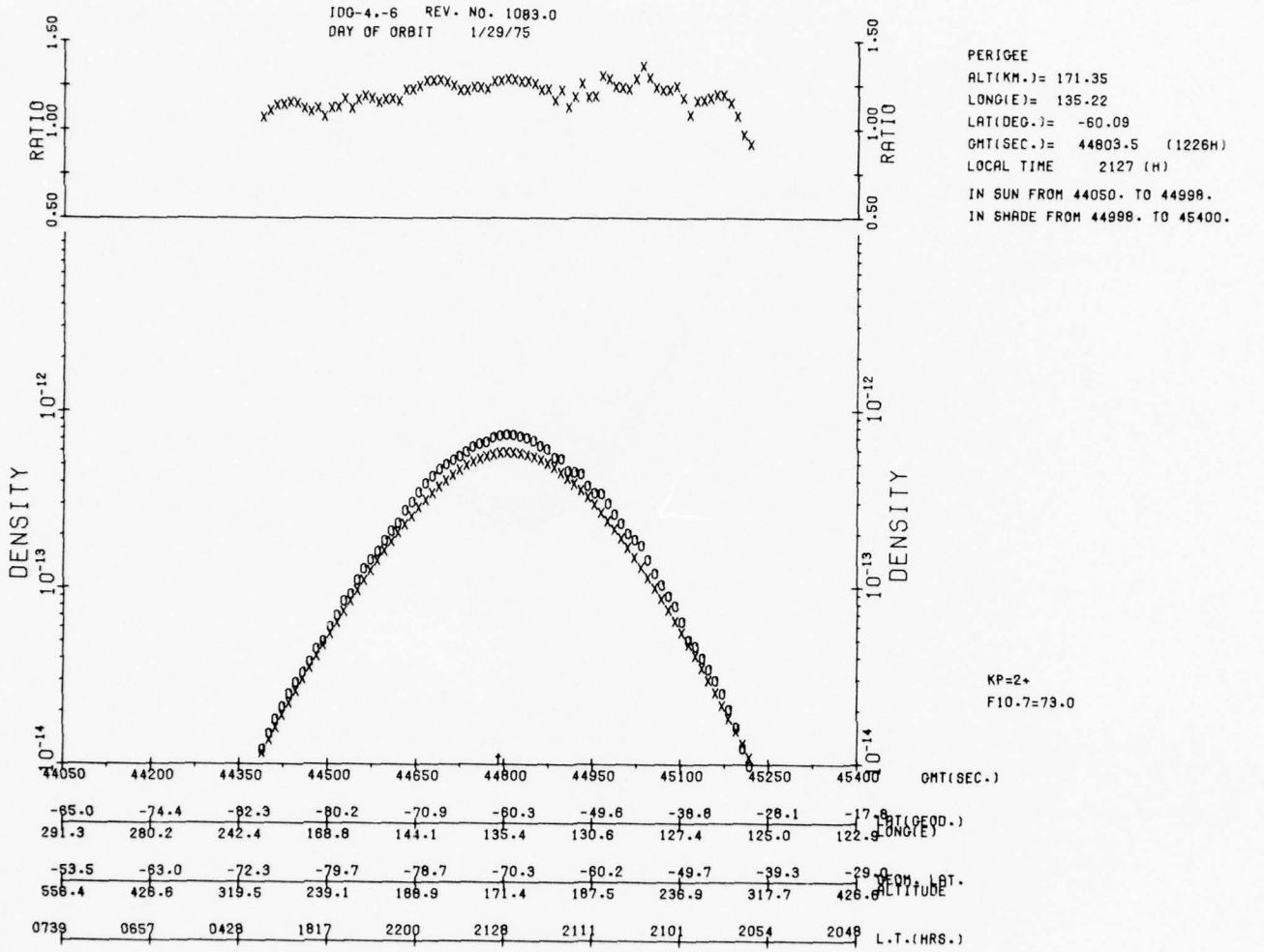
KP=4-
F10.7=73.0

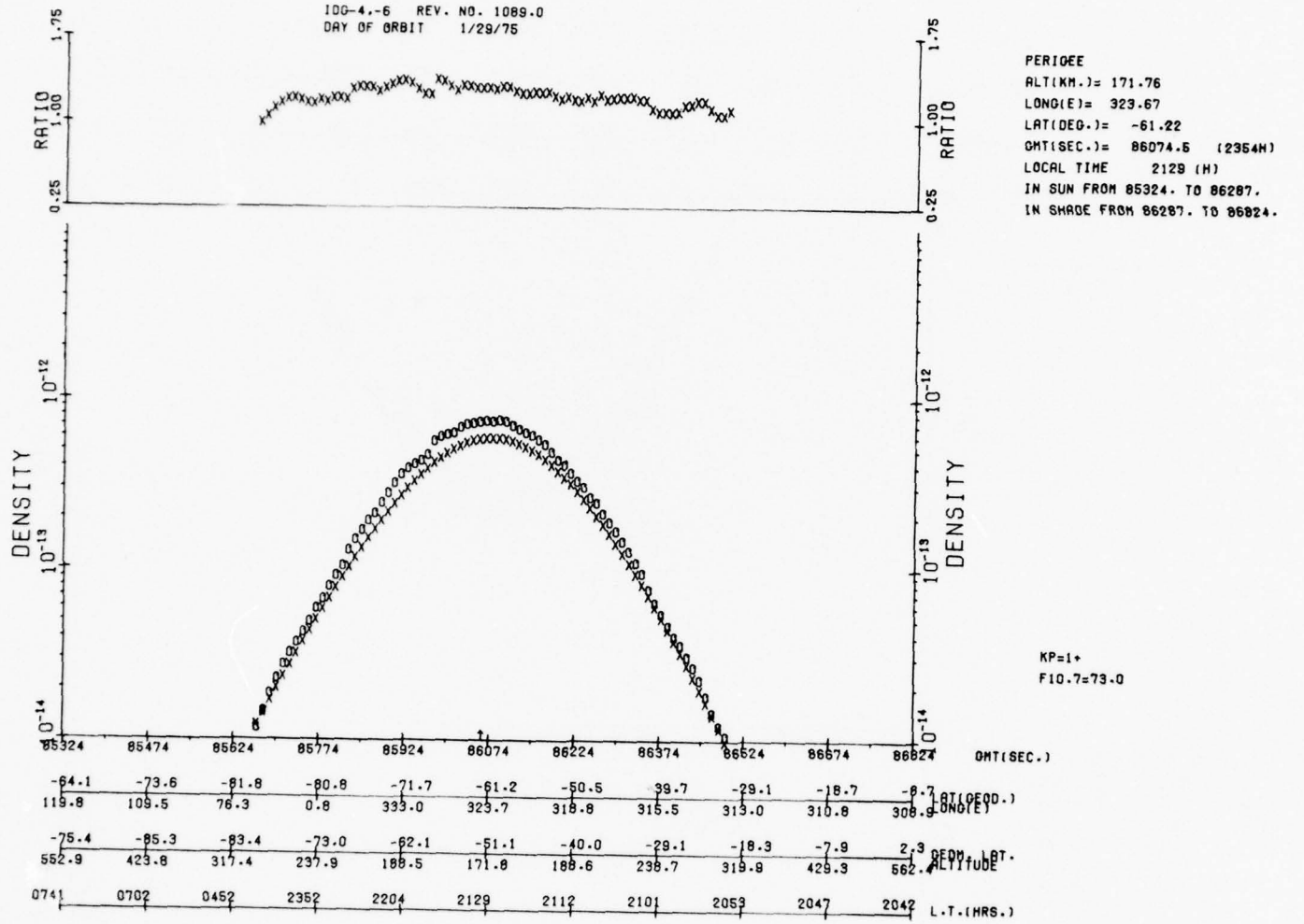

IDC-4,-6 REV. NO. 1077.0
DAY OF ORBIT 1/29/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 170.82
LONG(E)= 306.86
LAT(DEG.)= -58.86
GMT(SEC.)= 3521.8 (0058M)
LOCAL TIME 2126 (M)
IN SUN FROM 2772. TO 4272.
KP=1
F10.7=73.0
2772 2922 3072 3222 3372 3522 3672 3822 3972 4122 4272 GMT(SEC.)
-66.4 -75.7 -82.8 -79.1 -69.5 -59.0 -48.1 -37.4 -26.7 -16.4 -6.4 LAT(GEOD.)
102.5 89.8 15.8 335.7 314.8 306.9 302.4 299.3 296.9 294.8 293.0 LONG(E)
-77.6 -84.5 -78.3 -68.3 -58.7 -47.8 -36.8 -26.0 -15.3 -4.8 5.1 GEOM. LAT.
553.4 423.9 317.2 237.3 187.8 170.9 187.9 238.2 318.8 429.7 563.2 ALTITUDE
0736 0648 0348 2316 2155 2126 2110 2101 2053 2048 2043 L.T.(HRS.)

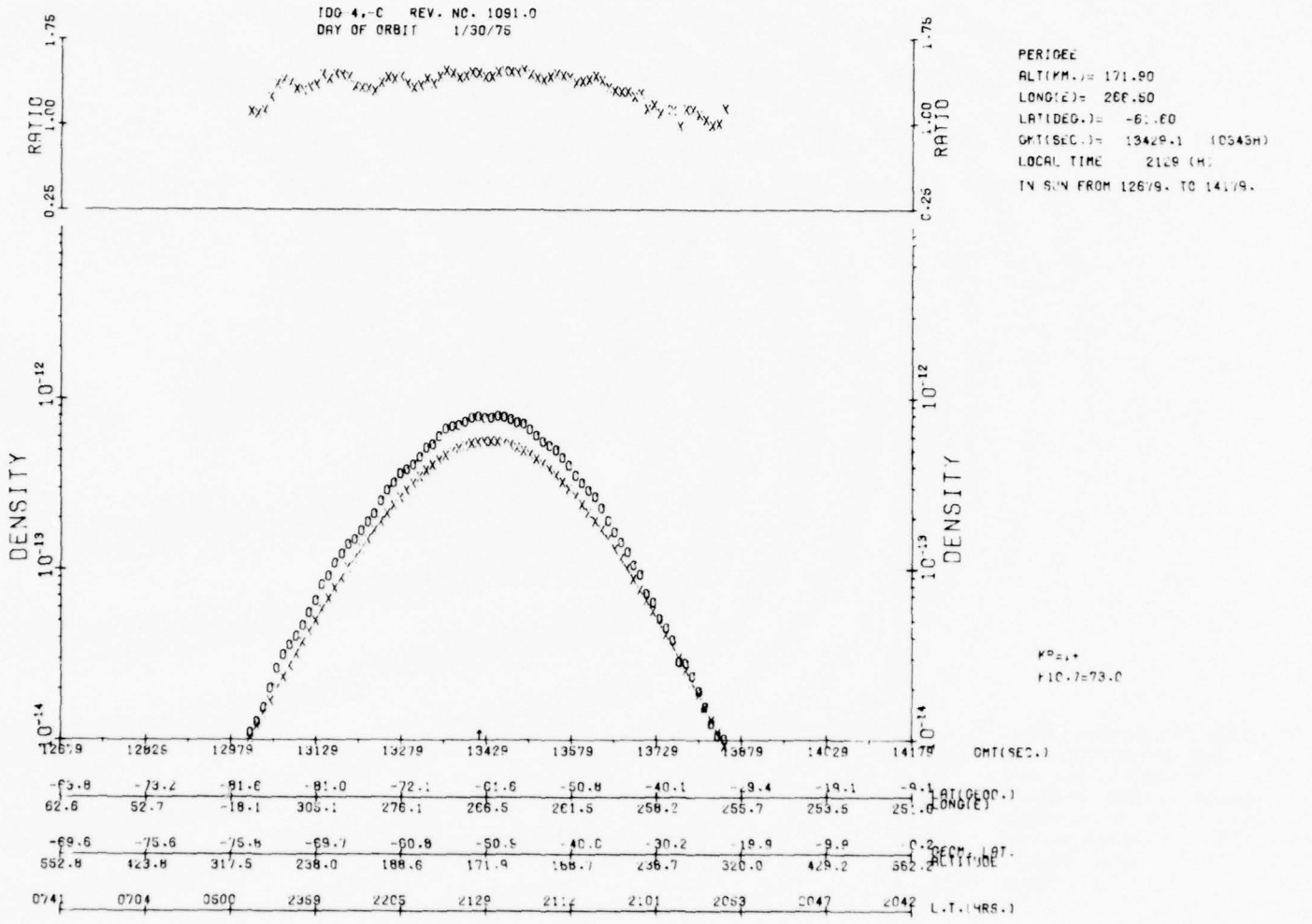


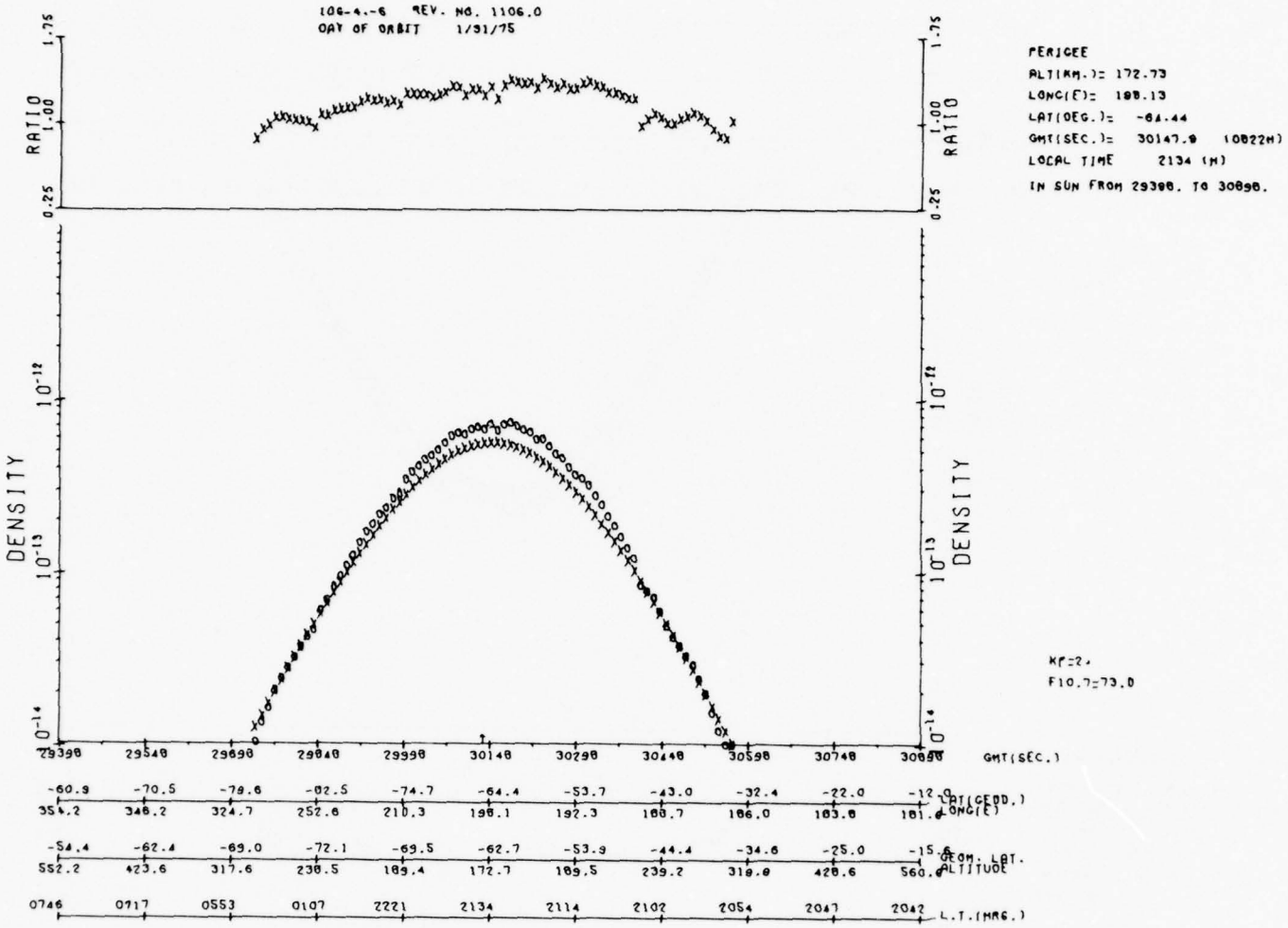
PERIGEE
ALT(KM.)= 171.21
LONG(E)= 192.43
LAT(DEG.)= -59.71
GMT(SEC.)= 31044.1 (0837H)
LOCAL TIME 2127 (H)
IN SUN FROM 30310. TO 31233.
IN SHADE FROM 31233. TO 31660.

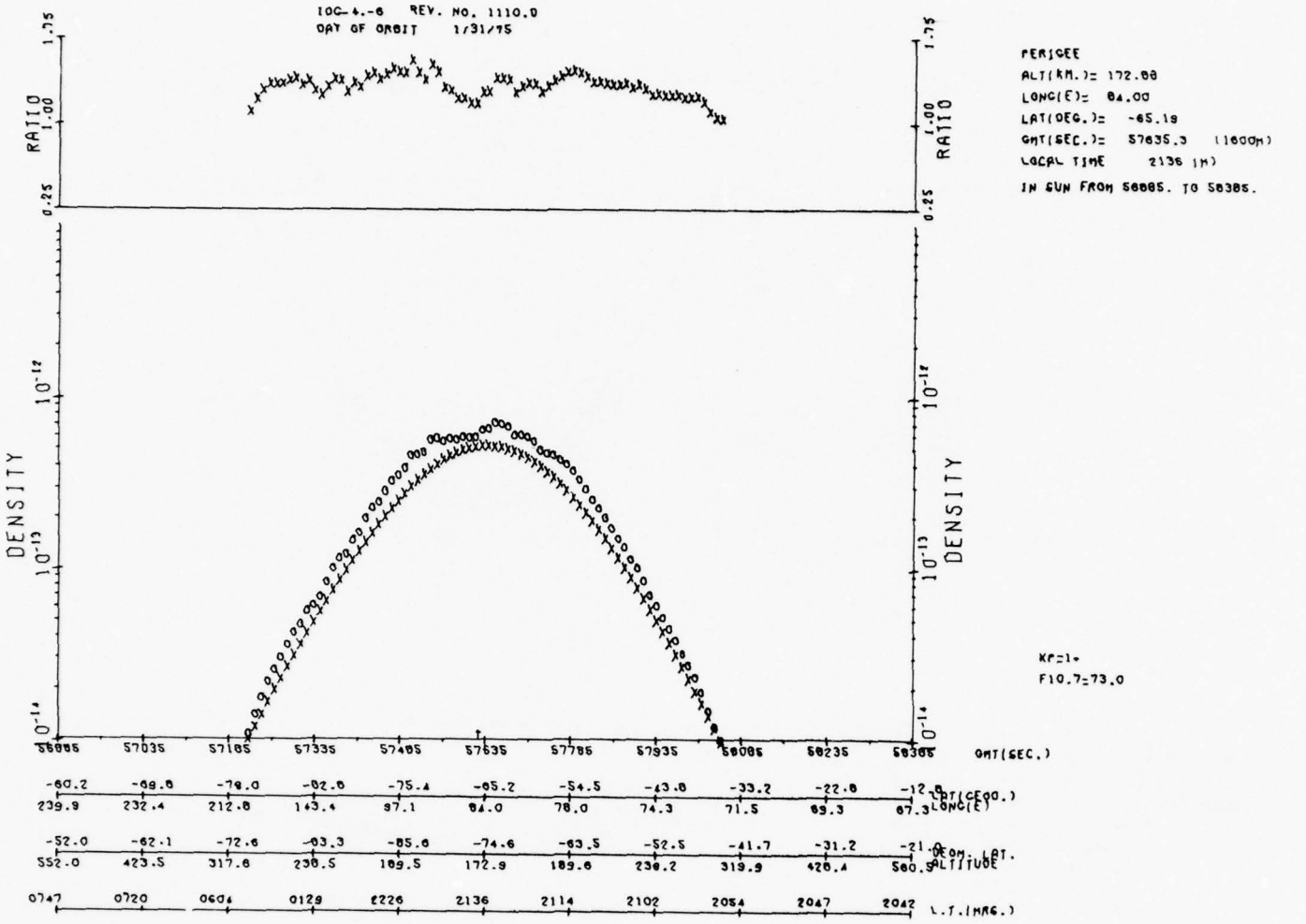
KP=2-
F10.7=73.0

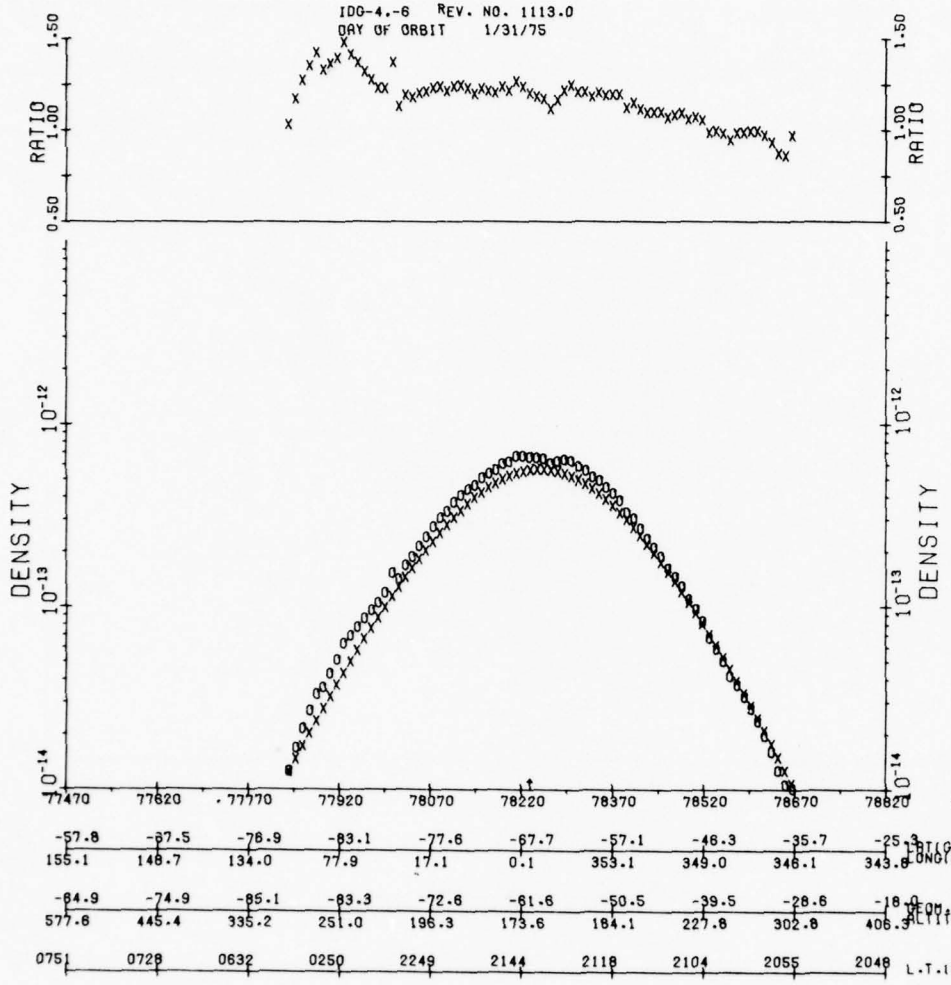

IDG-4.-6 REV. NO. 1083.0
DAY OF ORBIT 1/29/75
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 171.35
LONG(E)= 135.22
LAT(DEG.)= -60.09
GMT(SEC.)= 44803.5 (1226H)
LOCAL TIME 2127 (H)
IN SUN FROM 44050. TO 44998.
IN SHADE FROM 44998. TO 45400.
KP=2+
F10.7=73.0
44050 44200 44350 44500 44650 44800 44950 45100 45250 45400 GMT(SEC.)
-65.0 -74.4 -82.3 -80.2 -70.9 -60.3 -49.6 -38.8 -28.1 -17.8 LAT(GEOD.)
291.3 280.2 242.4 168.8 144.1 135.4 130.6 127.4 125.0 122.9 LONG(E)
-53.5 -63.0 -72.3 -79.7 -78.7 -70.3 -60.2 -49.7 -39.3 -29.0 GEOM. LAT.
558.4 426.6 319.5 239.1 188.9 171.4 187.5 236.9 317.7 426.6 ALTITUDE
0739 0657 0428 1817 2200 2128 2111 2101 2054 2048 L.T.(HRS.)


IDG-4.-6 REV. NO. 1089.0
DAY OF ORBIT 1/29/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 171.76
LONG(E)= 323.67
LAT(DEG.)= -61.22
GMT(SEC.)= 86074.5 (2354H)
LOCAL TIME 2129 (H)
IN SUN FROM 85324. TO 86287.
IN SHADE FROM 86287. TO 86824.
KP=1+
F10.7=73.0
85324 85474 85624 85774 85924 86074 86224 86374 86524 86674 86824
GMT(SEC.)
-64.1 -73.6 -81.8 -80.8 -71.7 -61.2 -50.5 -39.7 -29.1 -18.7 -8.7
119.8 109.5 76.3 0.8 333.0 323.7 318.8 315.5 313.0 310.8 308.9
LAT(DEGD.)
LONG(E)
-75.4 -85.3 -83.4 -73.0 -62.1 -51.1 -40.0 -29.1 -18.3 -7.9 2.3
552.9 423.8 317.4 237.9 188.5 171.8 188.6 238.7 319.8 429.3 562.4
DEGD. LAT.
ALTITUDE
0741 0702 0452 2352 2204 2129 2112 2101 2053 2047 2042
L.T.(HRS.)


IDG-4,-C REV. NO. 1091.0
DAY OF ORBIT 1/30/75
PERIGEE
ALT(KM.)= 171.90
LONG(E)= 268.60
LAT(DEG.)= -6[illegible].60
GMT(SEC.)= 13429.1 (0343H)
LOCAL TIME 2129 (H)
IN SUN FROM 12679. TO 14179.
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
12679 12829 12979 13129 13279 13429 13579 13729 13879 14029 14179 GMT(SEC.)
-69.8 -73.2 -81.6 -81.0 -72.1 -61.6 -50.8 -40.1 -29.4 -19.1 -9.1 LAT(DEGR.)
62.6 52.7 -18.1 305.1 276.1 266.5 261.5 258.2 255.7 253.5 251.6 LONG(E)
-69.6 -75.6 -75.6 -69.7 -60.8 -50.5 -40.0 -30.2 -19.9 -9.9 -0.2 GEOM. LAT.
552.8 423.8 317.5 238.0 188.6 171.9 188.7 236.7 320.0 429.2 562.2 ALTITUDE
0741 0704 0500 2359 2205 2129 2112 2101 2053 2047 2042 L.T.(HRS.)
KP=1+
F10.7=73.0

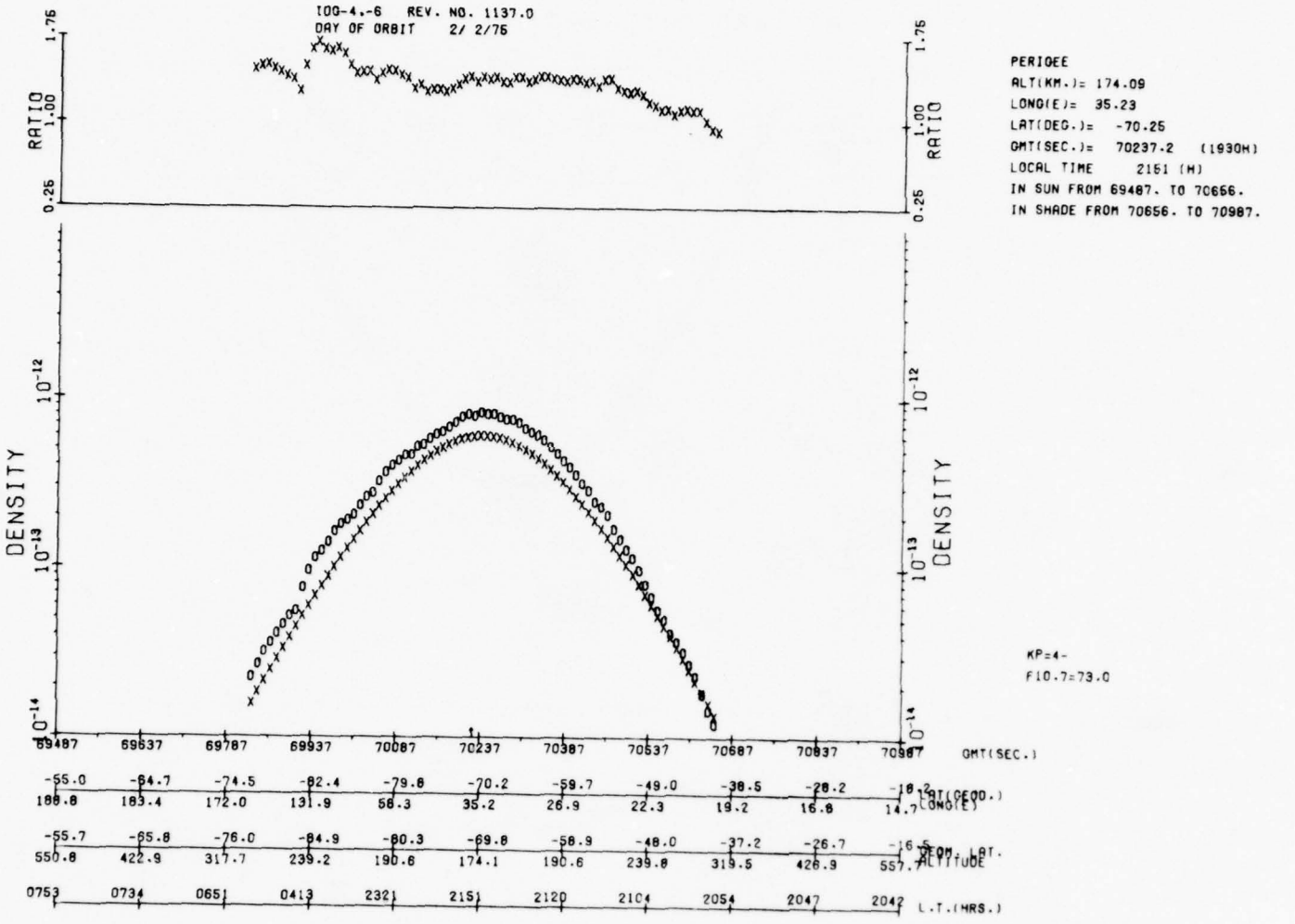

106-4.-6 REV. NO. 1106.0
DAY OF ORBIT 1/31/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALTI(KM.)= 172.73
LONG(E)= 188.13
LAT(DEG.)= -64.44
GMT(SEC.)= 30147.9 (0822H)
LOCAL TIME 2134 (H)
IN SUN FROM 29398. TO 30898.
KP=2.
F10.7=73.0
29398 29548 29698 29848 29998 30148 30298 30448 30598 30748 30898 GMT(SEC.)
-60.9 -70.5 -79.6 -82.5 -74.7 -64.4 -53.7 -43.0 -32.4 -22.0 -12.0 LAT(GEOD.)
354.2 348.2 324.7 252.6 210.3 188.1 192.3 188.7 186.0 183.8 181.6 LONG(E)
-54.4 -62.4 -69.0 -72.1 -69.5 -62.7 -53.9 -44.4 -34.6 -25.0 -15.6 GEOM. LAT.
552.2 423.6 317.6 238.5 189.4 172.7 189.5 239.2 318.0 426.6 560.6 ALTITUDE
0746 0717 0553 0107 2221 2134 2114 2102 2054 2047 2042 L.T.(MAG.)

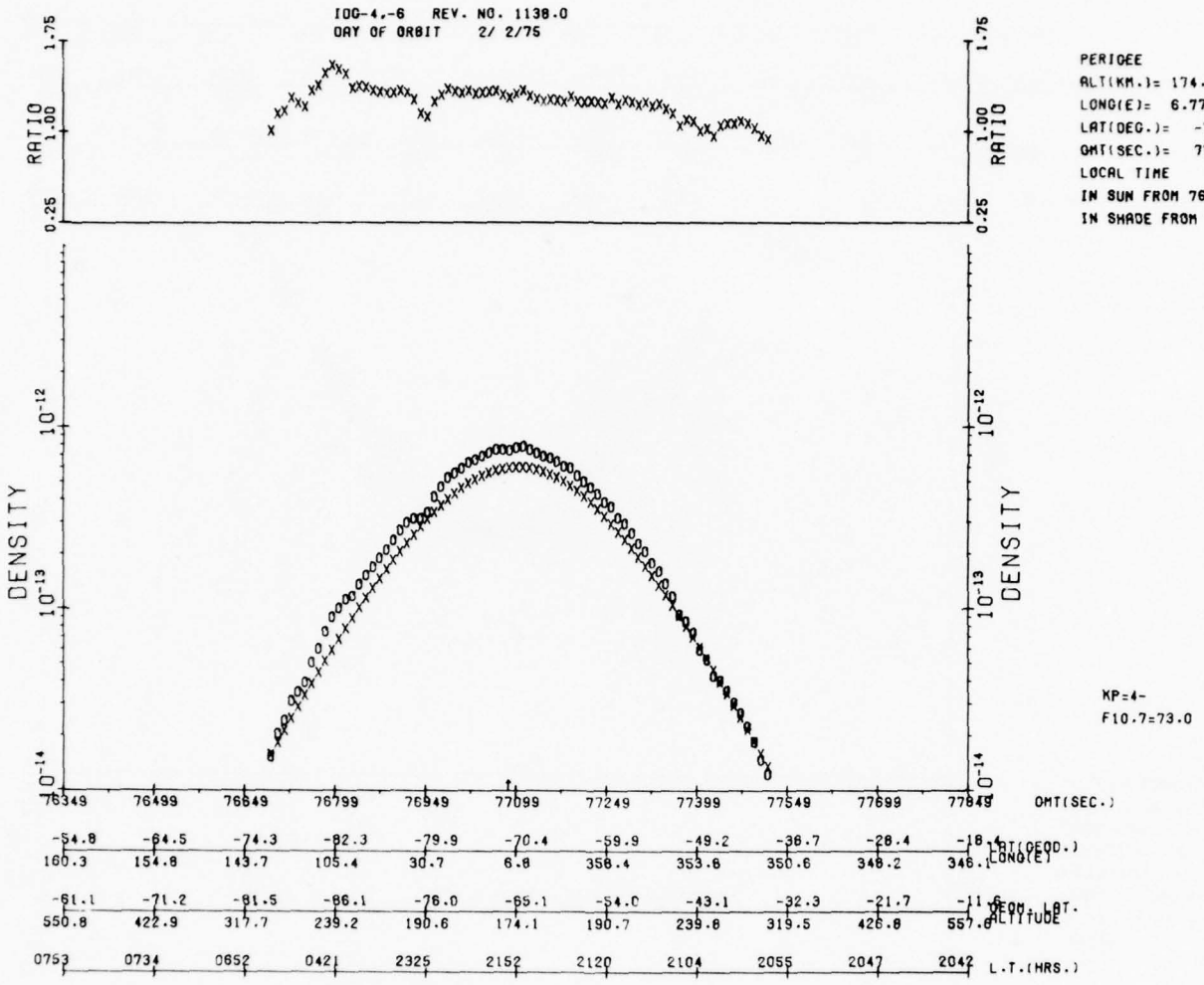

IOC-4.-6 REV. NO. 1110.0
DAT OF ORBIT 1/31/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 172.88
LONG(E)= 84.00
LAT(DEG.)= -65.19
GMT(SEC.)= 57635.3 (1600H)
LOCAL TIME 2136 (H)
IN SUN FROM 58085. TO 58385.
KP=1+
F10.7=73.0
58085 57935 57785 57635 57485 57335 57185 57035 58085 58235 58385 GMT(SEC.)
-60.2 -68.6 -76.0 -82.6 -75.4 -65.2 -54.5 -43.8 -33.2 -22.8 -12.8 LAT(CEOD.)
239.9 232.4 212.8 143.4 97.1 84.0 78.0 74.3 71.5 69.3 67.3 LONG(E)
-52.0 -62.1 -72.6 -83.3 -85.6 -74.6 -63.5 -52.5 -41.7 -31.2 -21.0 GEOM. LAT.
552.0 423.5 317.8 230.5 189.5 172.9 189.6 230.2 319.9 426.4 560.5 ALTITUDE
0747 0720 0654 0129 2226 2136 2114 2102 2054 2047 2042 L.T.(MAG.)

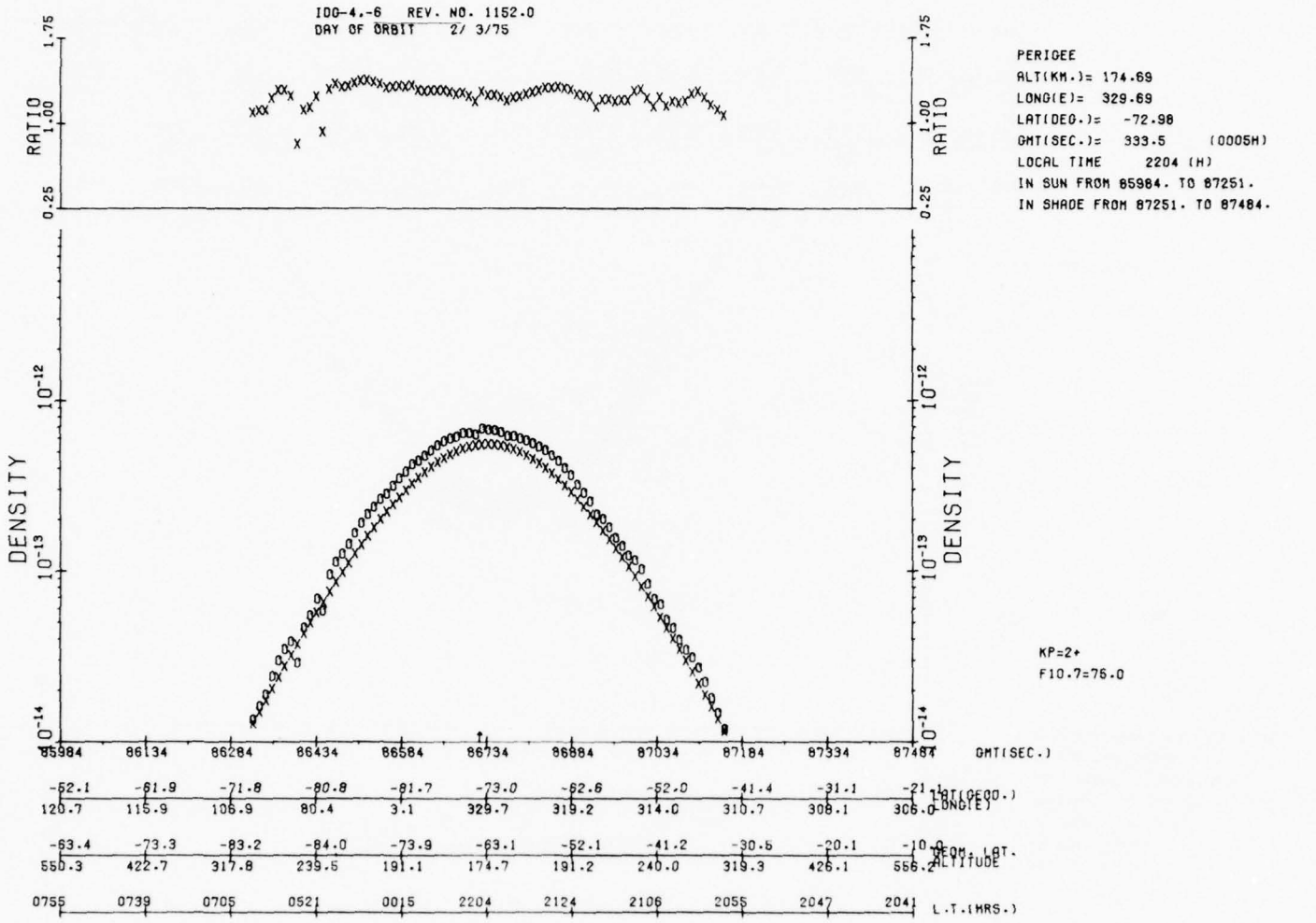


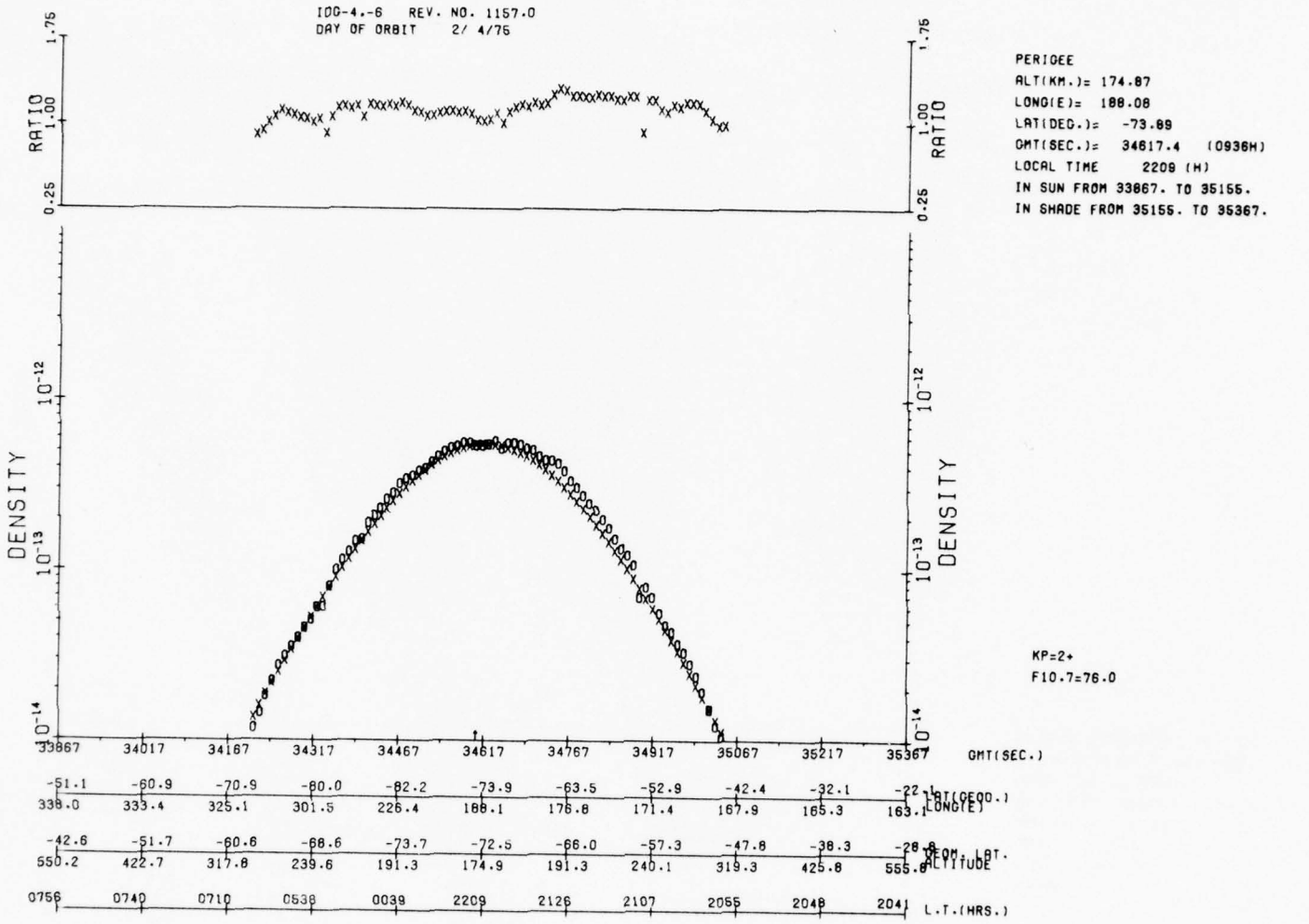
PERIGEE
ALT(KM.)= 173.01
LONG(E)= 358.43
LAT(DEG.)= -65.76
GMT(SEC.)= 78247.5 (2144H)
LOCAL TIME 2137 (H)
IN SUN FROM 77470. TO 78555.
IN SHADE FROM 78555. TO 78820.

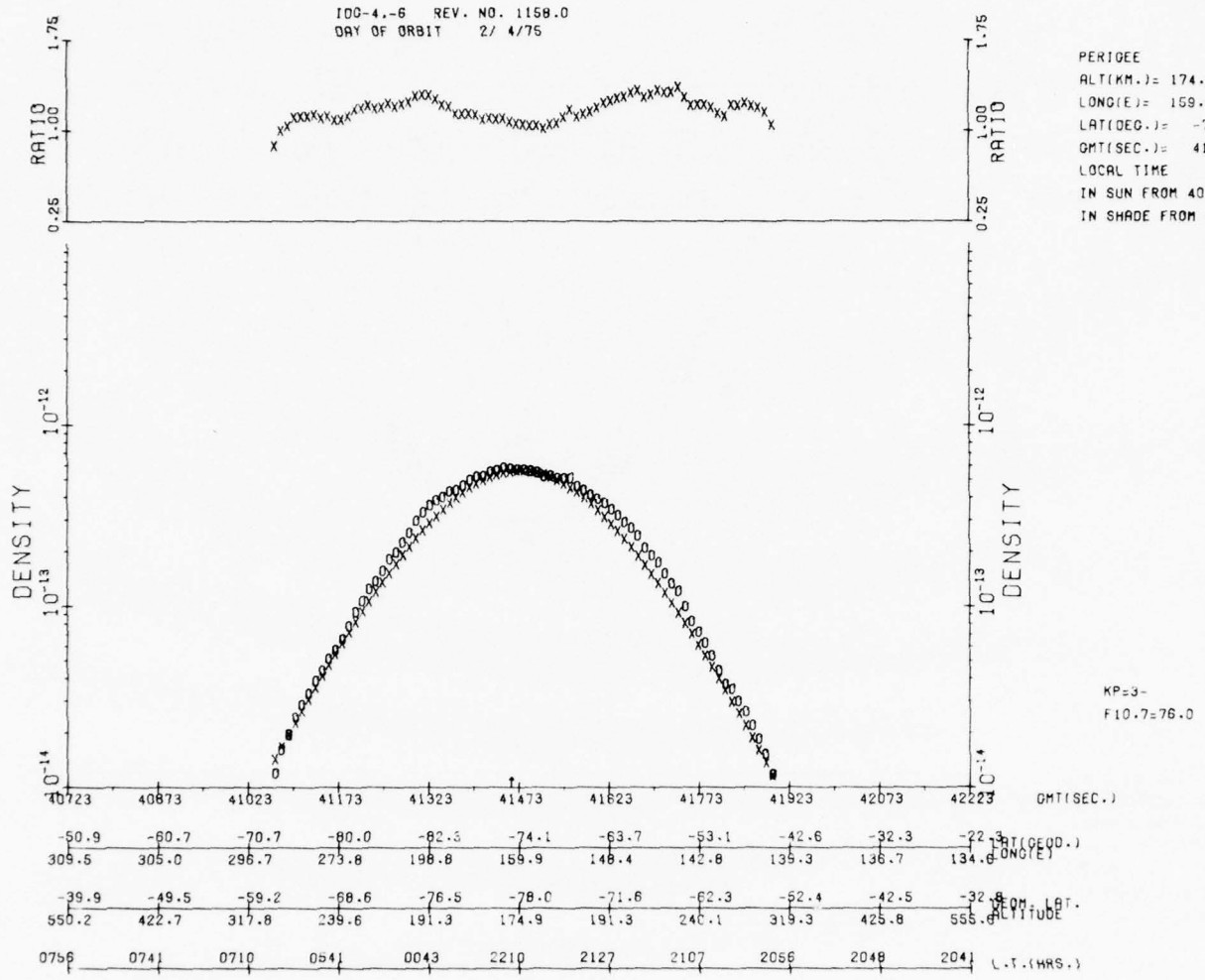
KP=2+
F10.7=73.0

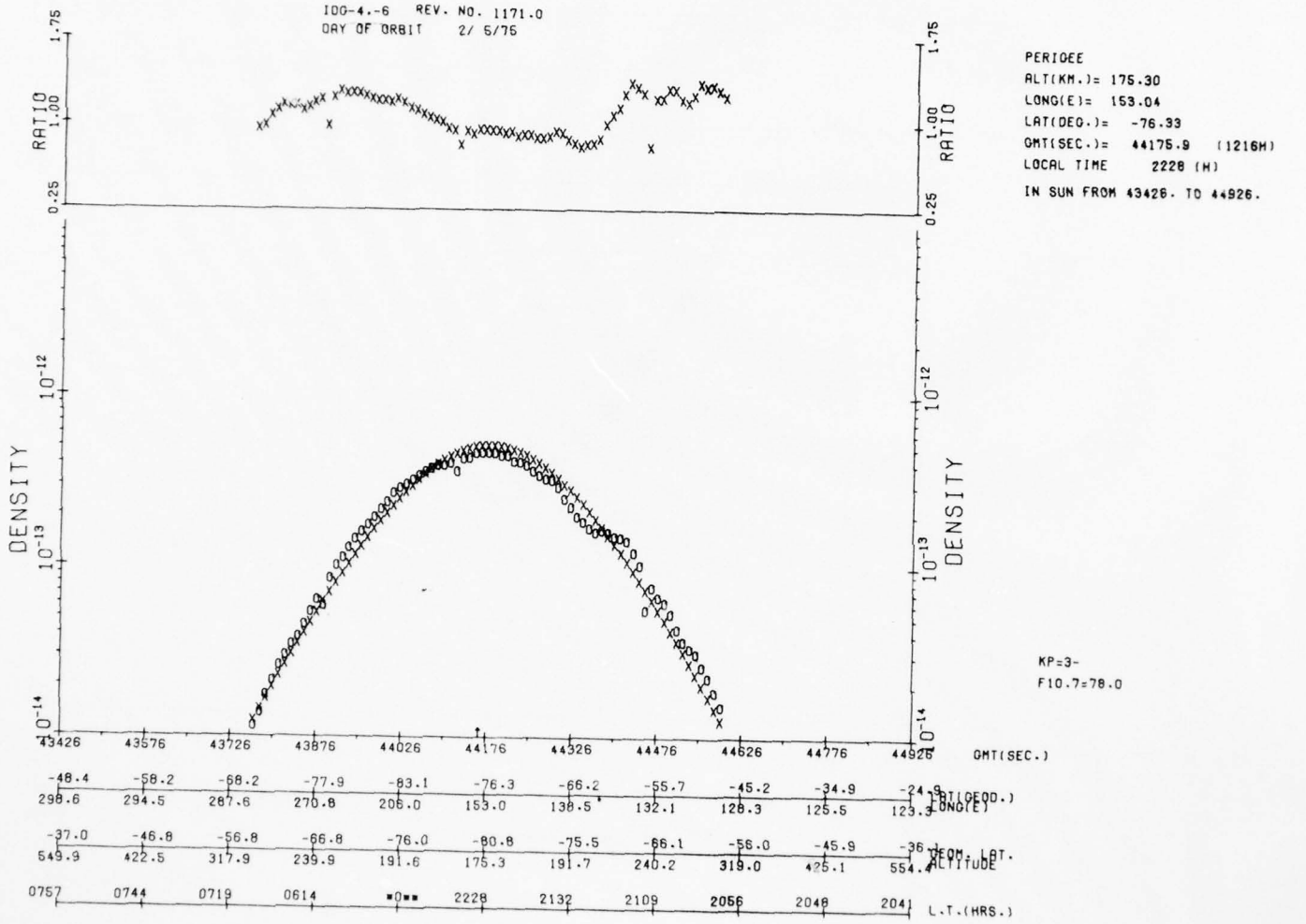

IOG-4,-6 REV. NO. 1137.0
DAY OF ORBIT 2/ 2/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 174.09
LONG(E)= 35.23
LAT(DEG.)= -70.25
GMT(SEC.)= 70237.2 (1930H)
LOCAL TIME 2151 (H)
IN SUN FROM 69487. TO 70656.
IN SHADE FROM 70656. TO 70987.
KP=4-
F10.7=73.0
69487 69637 69787 69937 70087 70237 70387 70537 70687 70837 70987 GMT(SEC.)
-55.0 -64.7 -74.5 -82.4 -79.8 -70.2 -59.7 -49.0 -38.5 -28.2 -18.2 LAT(DEGD.)
180.8 183.4 172.0 131.9 58.3 35.2 26.9 22.3 19.2 16.8 14.7 LONG(E)
-55.7 -65.8 -76.0 -84.9 -80.3 -69.8 -58.9 -48.0 -37.2 -26.7 -16.5 GEOM. LAT.
550.8 422.9 317.7 239.2 190.8 174.1 190.6 239.8 319.5 426.9 557.7 ALTITUDE
0753 0734 0651 0413 2321 2151 2120 2104 2054 2047 2042 L.T.(HRS.)

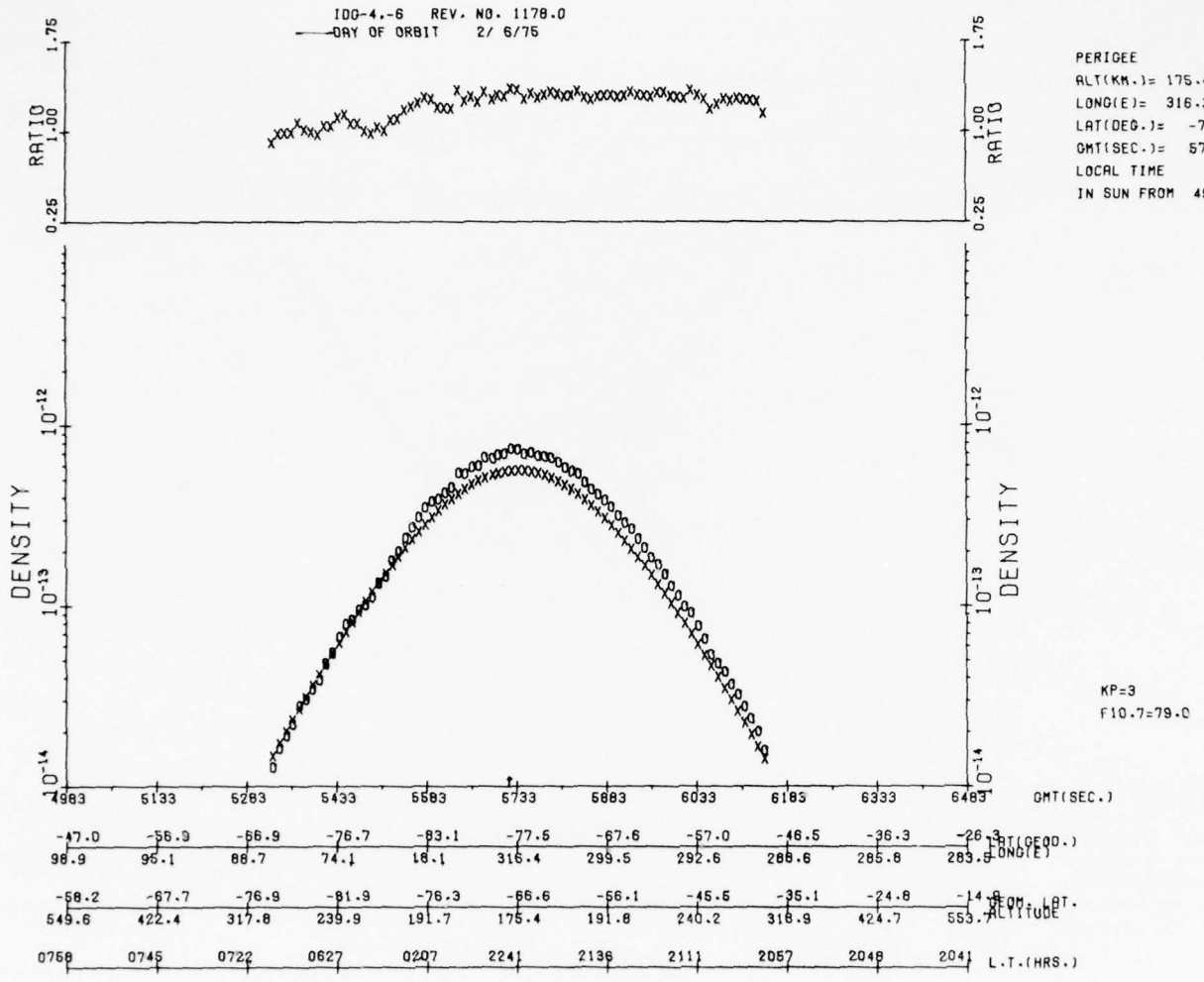

IDG-4,-6 REV. NO. 1138.0
DAY OF ORBIT 2/ 2/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 174.13
LONG(E)= 6.77
LAT(DEG.)= -70.44
GMT(SEC.)= 77099.2 (2124H)
LOCAL TIME 2152 (H)
IN SUN FROM 76349. TO 77522.
IN SHADE FROM 77522. TO 77849.
KP=4-
F10.7=73.0
76349 76499 76649 76799 76949 77099 77249 77399 77549 77699 77849 GMT(SEC.)
-54.8 -64.5 -74.3 -82.3 -79.9 -70.4 -59.9 -49.2 -38.7 -28.4 -18.4 LAT(DEGD.)
160.3 154.8 143.7 105.4 30.7 6.8 358.4 353.8 350.6 348.2 346.1 LONG(E)
-61.1 -71.2 -81.5 -86.1 -76.0 -65.1 -54.0 -43.1 -32.3 -21.7 -11.6 GEOM. LAT.
550.8 422.9 317.7 239.2 190.6 174.1 190.7 239.8 319.5 426.8 557.6 ALTITUDE
0753 0734 0652 0421 2325 2152 2120 2104 2055 2047 2042 L.T.(HRS.)

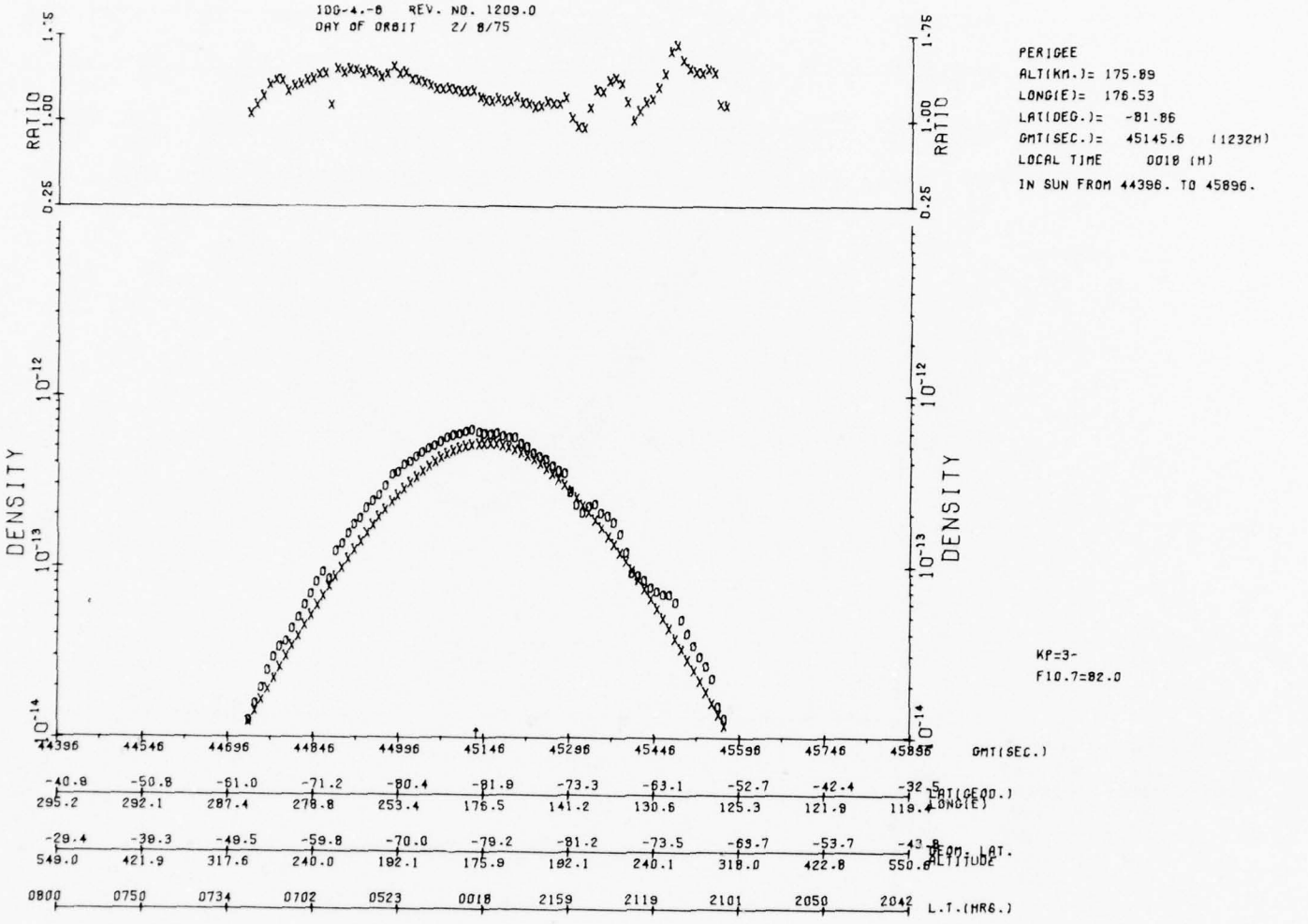

IDG-4.-6 REV. NO. 1152.0
DAY OF ORBIT 2/ 3/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 174.69
LONG(E)= 329.69
LAT(DEG.)= -72.98
GMT(SEC.)= 333.5 (0005H)
LOCAL TIME 2204 (H)
IN SUN FROM 85984. TO 87251.
IN SHADE FROM 87251. TO 87484.
KP=2+
F10.7=76.0
85984 86134 86284 86434 86584 86734 86884 87034 87184 87334 87484 GMT(SEC.)
-52.1 -61.9 -71.8 -80.8 -81.7 -73.0 -62.6 -52.0 -41.4 -31.1 -21.1 LAT(DEGD.)
120.7 115.9 106.9 80.4 3.1 329.7 319.2 314.0 310.7 308.1 306.0 LONG(E)
-83.4 -73.3 -83.2 -84.0 -73.9 -63.1 -52.1 -41.2 -30.6 -20.1 -10.0 GEOM. LAT.
550.3 422.7 317.8 239.5 191.1 174.7 191.2 240.0 319.3 426.1 556.2 ALTITUDE
0755 0739 0705 0521 0015 2204 2124 2106 2055 2047 2041 L.T.(HRS.)

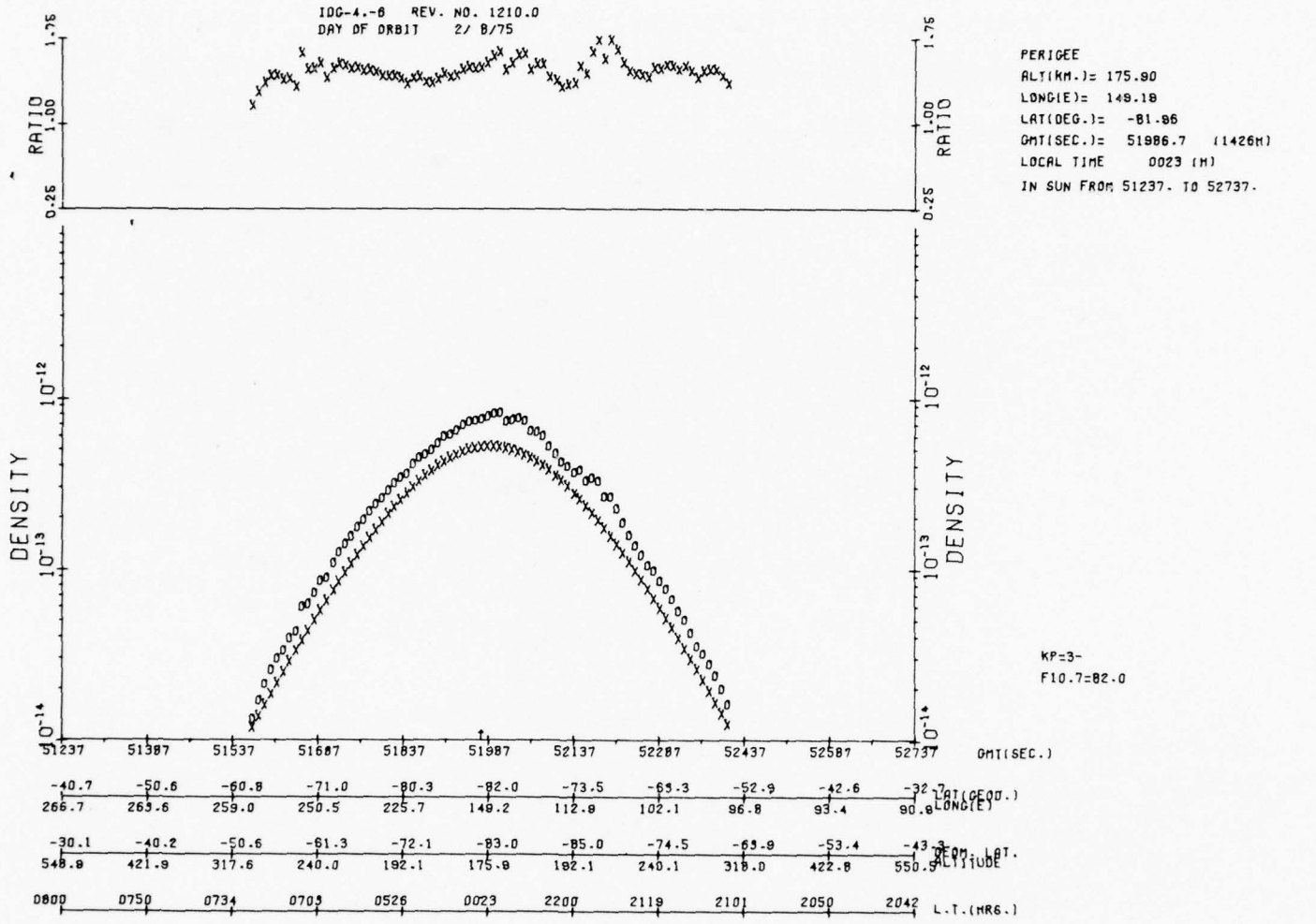

IDG-4.-6 REV. NO. 1157.0
DAY OF ORBIT 2/ 4/76
RATIO
1.75
1.00
0.25
PERIGEE
ALT(KM.)= 174.87
LONG(E)= 188.08
LAT(DEG.)= -73.89
GMT(SEC.)= 34817.4 (0936H)
LOCAL TIME 2209 (H)
IN SUN FROM 33867. TO 35155.
IN SHADE FROM 35155. TO 35367.
DENSITY
10^{-12}
10^{-13}
10^{-14}
KP=2+
F10.7=76.0
33867 34017 34167 34317 34467 34617 34767 34917 35067 35217 35367 GMT(SEC.)
-51.1 -60.9 -70.9 -80.0 -82.2 -73.9 -63.5 -52.9 -42.4 -32.1 -22.1 LAT(GEOD.)
338.0 333.4 325.1 301.5 226.4 188.1 176.8 171.4 167.9 165.3 163.1 LONG(E)
-42.6 -51.7 -60.6 -68.6 -73.7 -72.5 -66.0 -57.3 -47.8 -38.3 -28.8 GEOM. LAT.
550.2 422.7 317.8 239.6 191.3 174.9 191.3 240.1 319.3 425.8 555.8 ALTITUDE
0756 0740 0710 0638 0039 2209 2126 2107 2065 2048 2041 L.T.(HRS.)

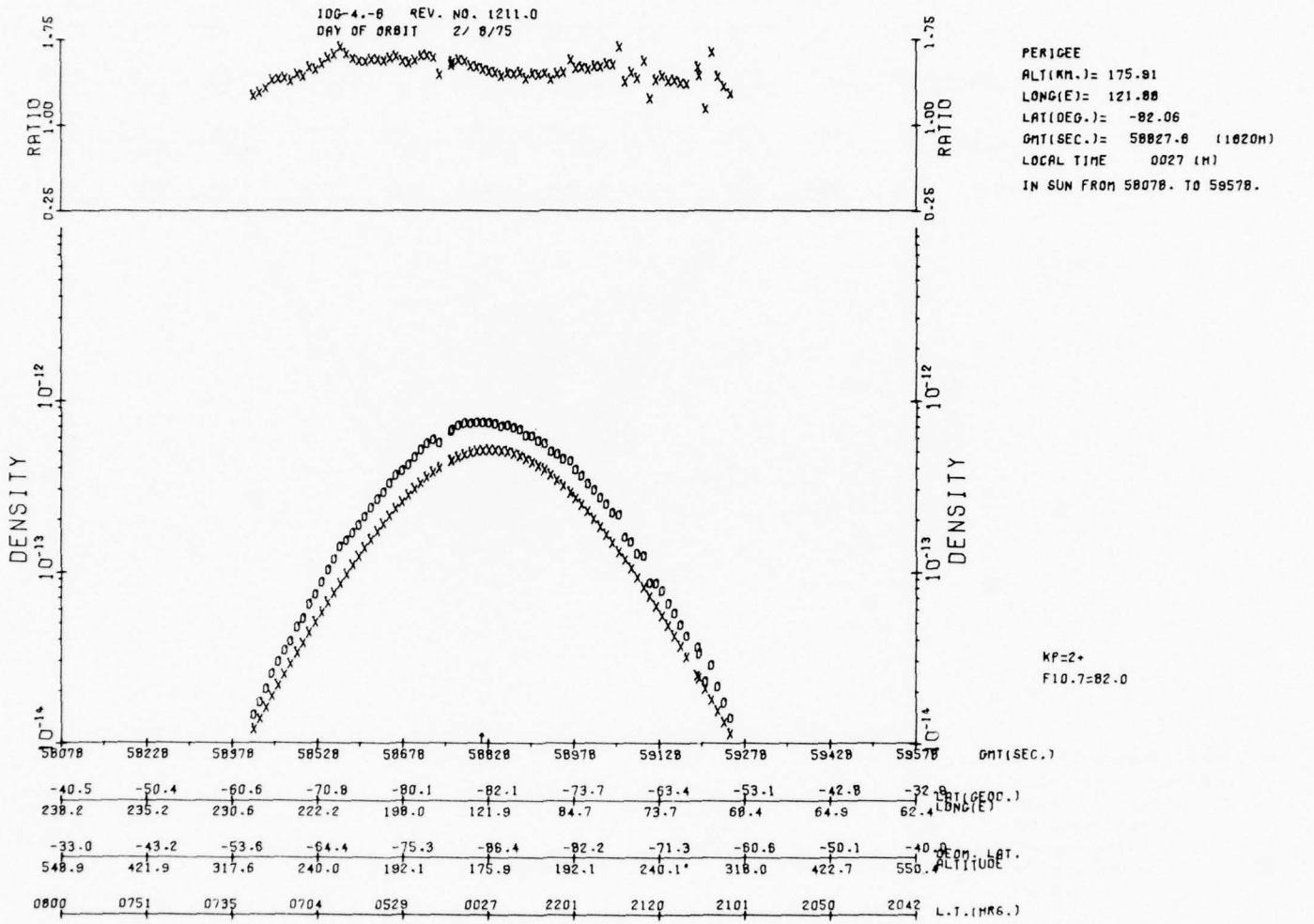

IDG-4.-6 REV. NO. 1158.0
DAY OF ORBIT 2/ 4/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 174.91
LONG(E)= 159.86
LAT(DEG.)= -74.06
GMT(SEC.)= 41473.4 (1131H)
LOCAL TIME 2210 (H)
IN SUN FROM 40723. TO 42015.
IN SHADE FROM 42015. TO 42223.
KP=3-
F10.7=76.0
40723 40873 41023 41173 41323 41473 41623 41773 41923 42073 42223 GMT(SEC.)
-50.9 -60.7 -70.7 -80.0 -82.3 -74.1 -63.7 -53.1 -42.6 -32.3 -22.3 LAT(GEOD.)
309.5 305.0 296.7 273.8 198.8 159.9 148.4 142.8 135.3 136.7 134.6 LONG(E)
-39.9 -49.5 -59.2 -68.6 -76.5 -78.0 -71.6 -62.3 -52.4 -42.5 -32.8 GEOM. LAT.
550.2 422.7 317.8 239.6 191.3 174.9 191.3 240.1 319.3 425.8 555.6 ALTITUDE
0756 0741 0710 0541 0043 2210 2127 2107 2056 2048 2041 L.T.(HRS.)

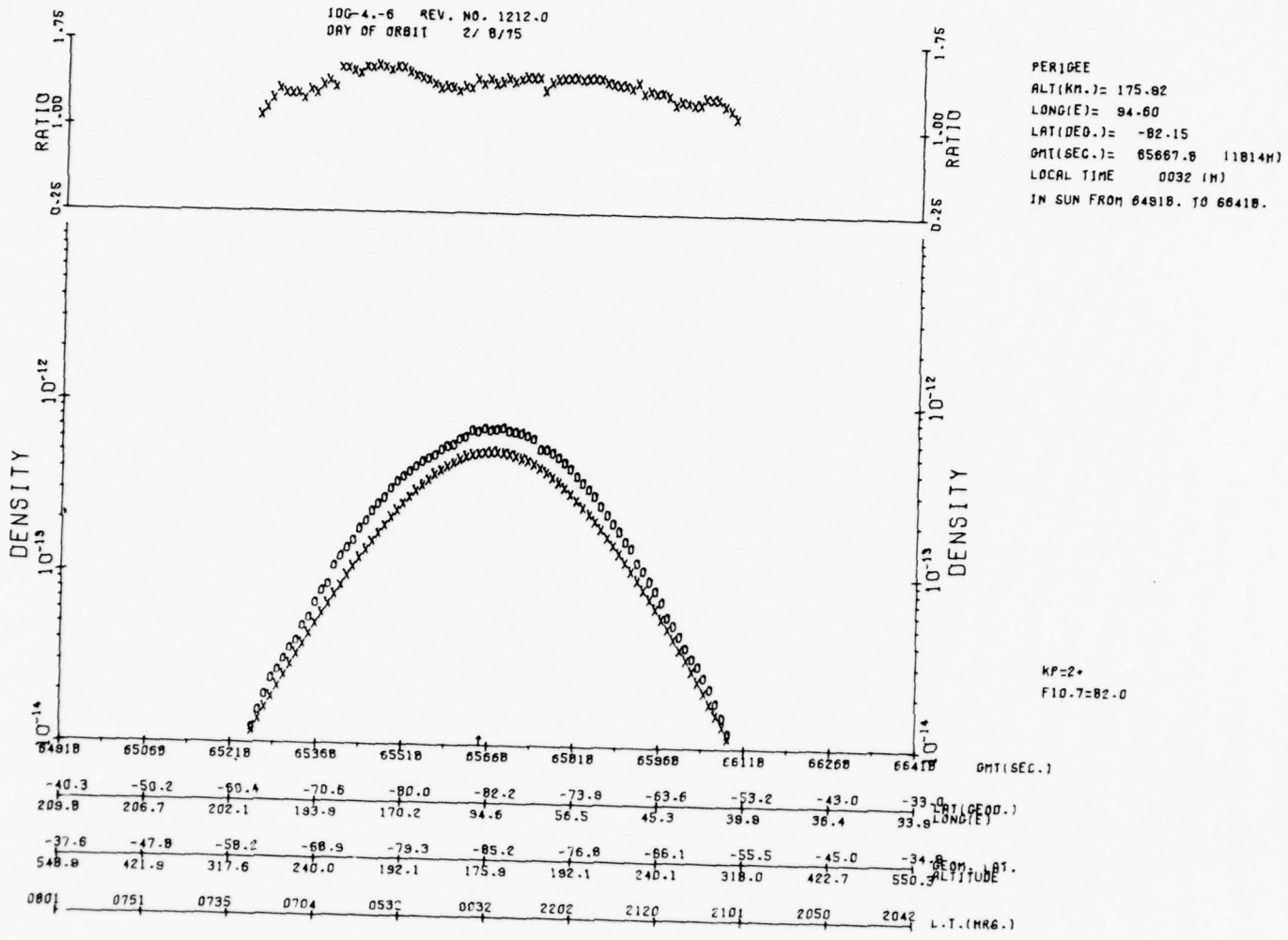

IDG-4.-6 REV. NO. 1171.0
DAY OF ORBIT 2/ 5/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 175.30
LONG(E)= 153.04
LAT(DEG.)= -76.33
GMT(SEC.)= 44175.9 (1216H)
LOCAL TIME 2228 (H)
IN SUN FROM 43426. TO 44926.
KP=3-
F10.7=78.0
43426 43576 43726 43876 44026 44176 44326 44476 44626 44776 44926 GMT(SEC.)
-48.4 -58.2 -68.2 -77.9 -83.1 -76.3 -66.2 -55.7 -45.2 -34.9 -24.9 LAT(DEGD.)
298.6 294.5 287.6 270.8 208.0 153.0 138.5 132.1 128.3 125.5 123.3 LONG(E)
-37.0 -46.8 -56.8 -66.8 -76.0 -80.8 -75.5 -66.1 -56.0 -45.9 -36.1 GEOM. LAT.
549.9 422.5 317.9 239.9 191.6 175.3 191.7 240.2 319.0 425.1 554.4 ALTITUDE
0757 0744 0719 0614 ▪0▪▪ 2228 2132 2109 2056 2048 2041 L.T.(HRS.)

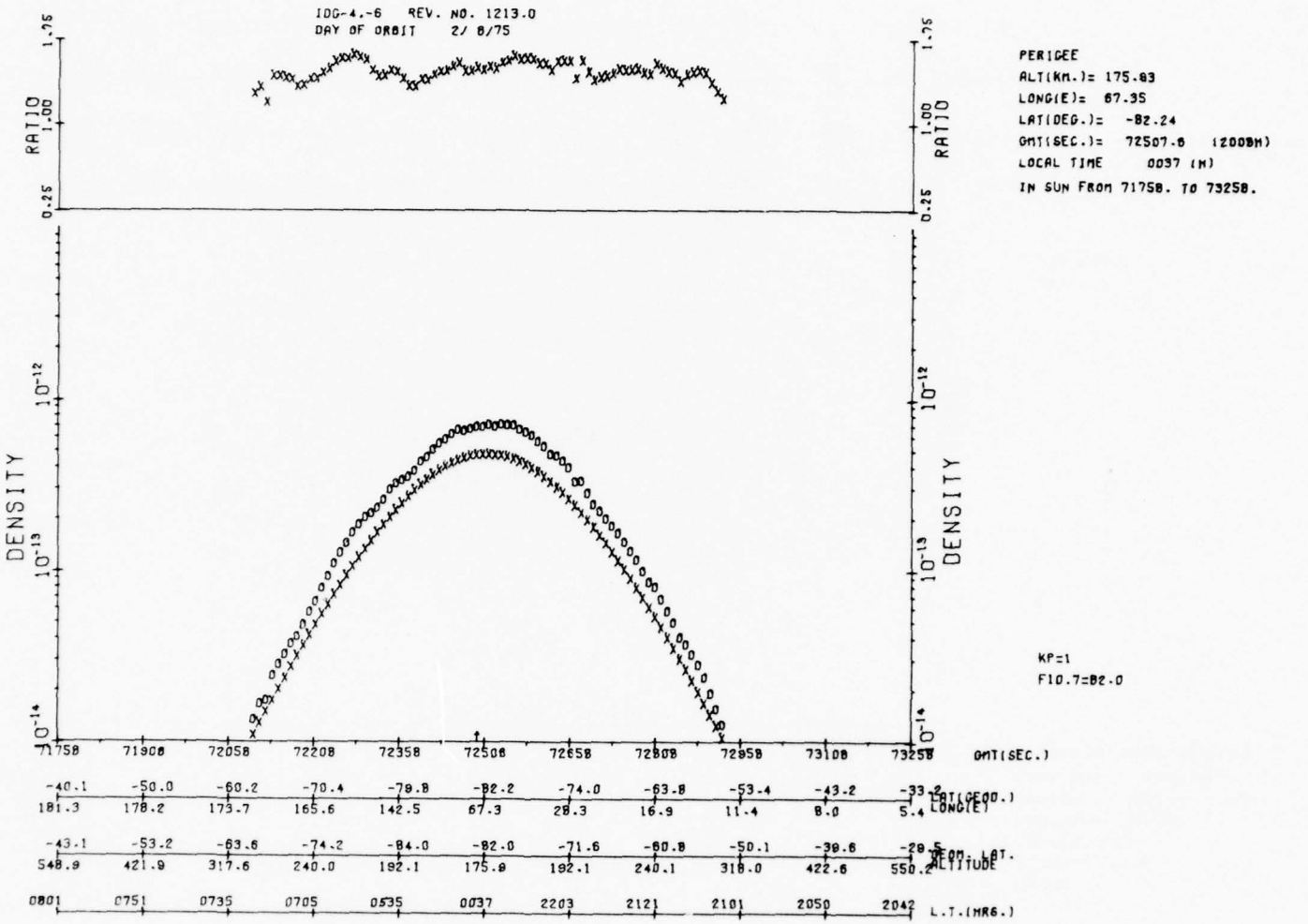

IDG-4,-6 REV. NO. 1178.0
DAY OF ORBIT 2/ 6/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 175.43
LONG(E)= 316.38
LAT(DEG.)= -77.51
GMT(SEC.)= 5733.4 (0135H)
LOCAL TIME 2241 (H)
IN SUN FROM 4983. TO 6483.
KP=3
F10.7=79.0
4983 5133 5283 5433 5583 5733 5883 6033 6183 6333 6483 GMT(SEC.)
-47.0 -56.9 -66.9 -76.7 -83.1 -77.5 -67.6 -57.0 -46.5 -36.3 -26.3 LAT(GEOD.)
98.9 95.1 88.7 74.1 18.1 316.4 299.5 292.6 288.6 285.8 283.5 LONG(E)
-58.2 -67.7 -76.9 -81.9 -76.3 -66.6 -56.1 -45.5 -35.1 -24.8 -14.8 GEOM. LAT.
549.6 422.4 317.8 239.9 191.7 175.4 191.8 240.2 318.9 424.7 553.7 ALTITUDE
0758 0745 0722 0627 0207 2241 2136 2111 2057 2048 2041 L.T.(HRS.)

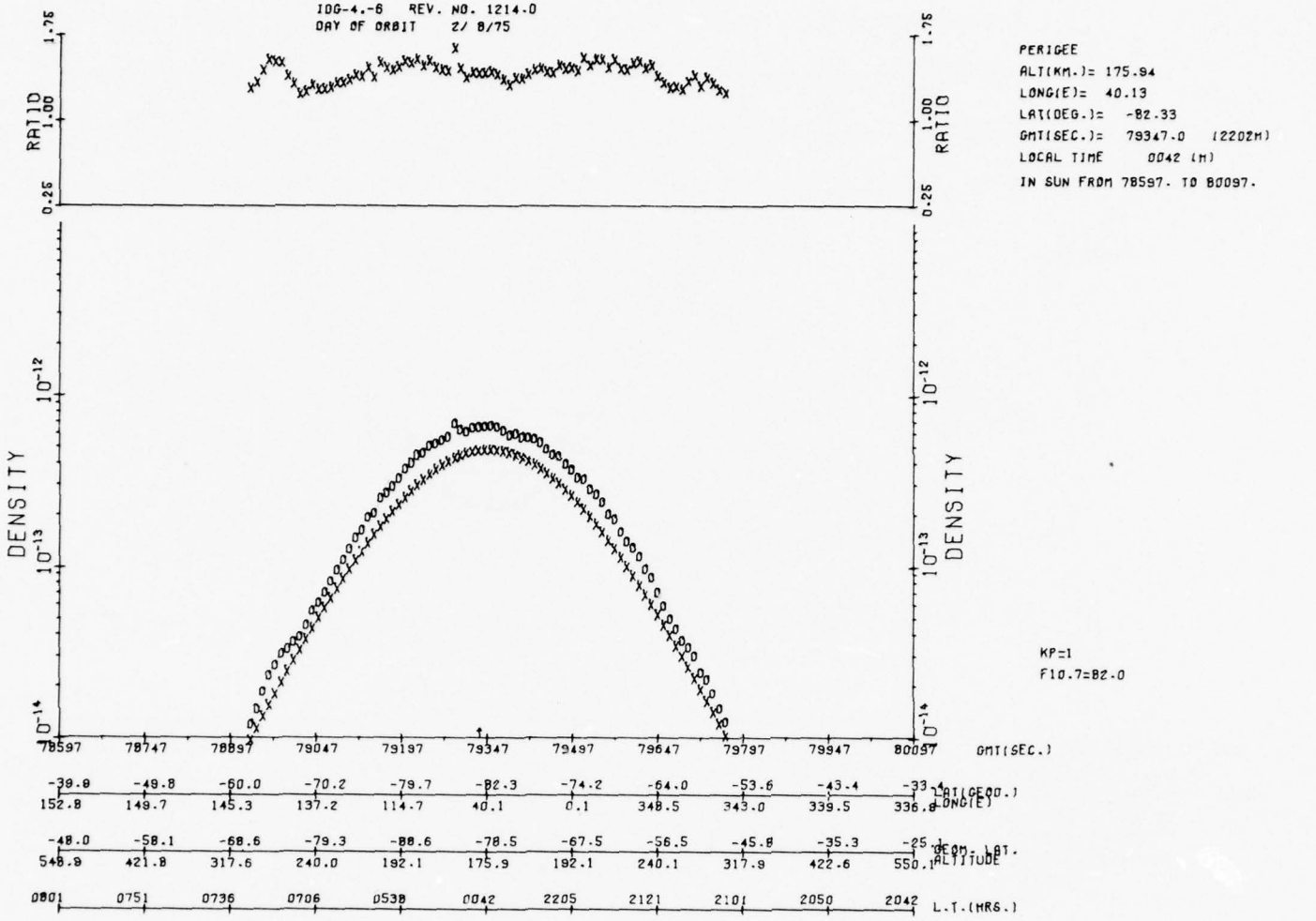

IDG-4.-8 REV. NO. 1209.0
DAY OF ORBIT 2/ 8/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 175.89
LONG(E)= 176.53
LAT(DEG.)= -81.86
GMT(SEC.)= 45145.6 (1232H)
LOCAL TIME 0018 (H)
IN SUN FROM 44396. TO 45896.
KP=3-
F10.7=82.0
44396 44546 44696 44846 44996 45146 45296 45446 45596 45746 45896 GMT(SEC.)
-40.8 -50.8 -61.0 -71.2 -80.4 -81.8 -73.3 -63.1 -52.7 -42.4 -32.5 LAT(GEOD.)
295.2 292.1 287.4 278.8 253.4 176.5 141.2 130.6 125.3 121.8 119.4 LONG(E)
-29.4 -39.3 -49.5 -59.8 -70.0 -79.2 -81.2 -73.5 -63.7 -53.7 -43.8 GEOD. LAT.
549.0 421.9 317.6 240.0 192.1 175.9 192.1 240.1 318.0 422.8 550.6 ALTITUDE
0800 0750 0734 0702 0523 0018 2159 2119 2101 2050 2042 L.T.(HRS.)

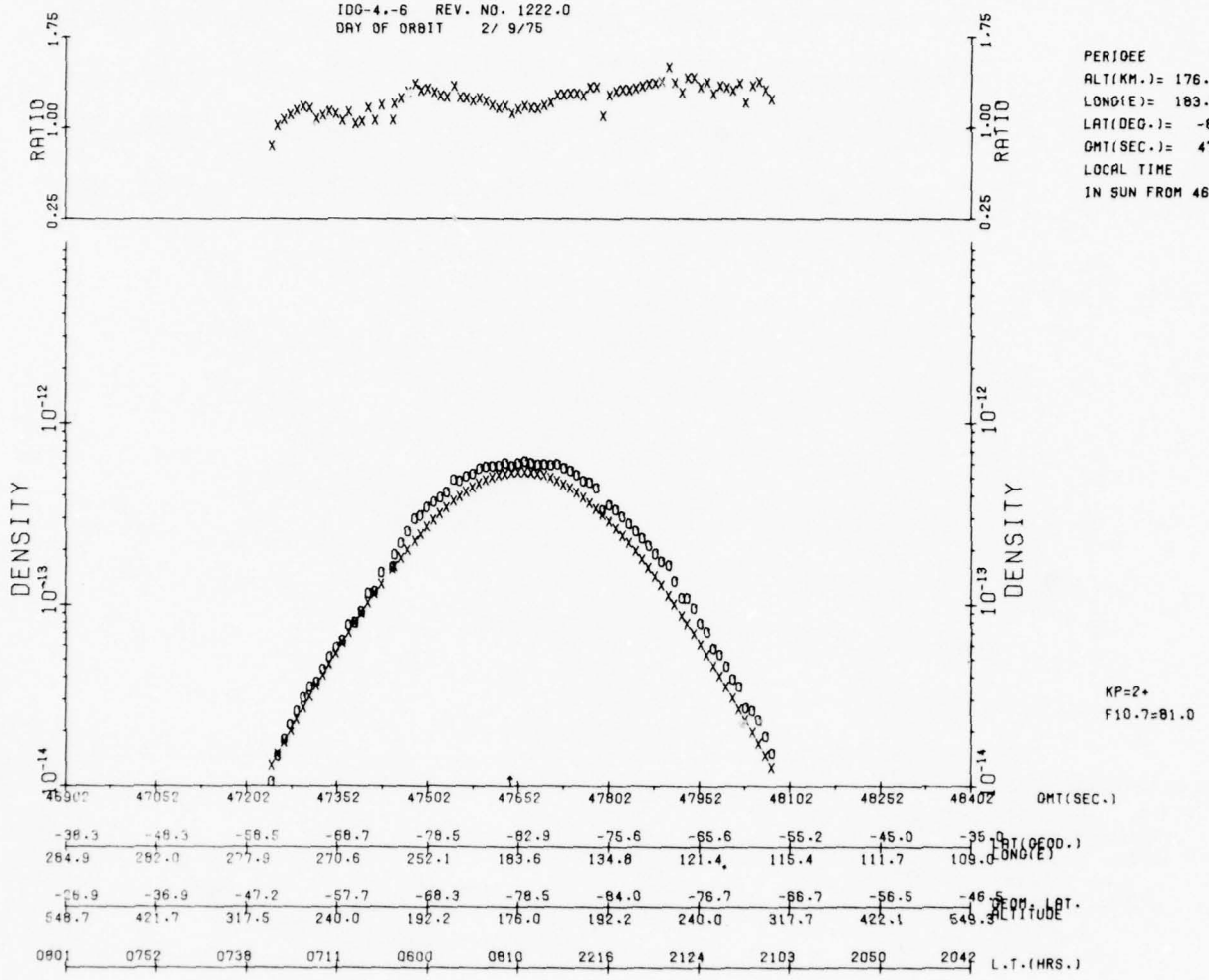

IDG-4.-6 REV. NO. 1210.0
DAY OF ORBIT 2/ 8/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 175.90
LONG(E)= 149.18
LAT(DEG.)= -81.86
GMT(SEC.)= 51986.7 (1426M)
LOCAL TIME 0023 (M)
IN SUN FROM 51237. TO 52737.
KP=3-
F10.7=82.0
51237 51387 51537 51687 51837 51987 52137 52287 52437 52587 52737 GMT(SEC.)
-40.7 -50.6 -60.8 -71.0 -80.3 -82.0 -73.5 -63.3 -52.9 -42.6 -32.7 LAT(GEOD.)
266.7 263.6 259.0 250.5 225.7 149.2 112.8 102.1 96.8 93.4 90.8 LONG(E)
-30.1 -40.2 -50.6 -61.3 -72.1 -83.0 -85.0 -74.5 -63.9 -53.4 -43.3 GEOM. LAT.
548.8 421.9 317.6 240.0 192.1 175.8 182.1 240.1 318.0 422.8 550.5 ALTITUDE
0800 0750 0734 0703 0526 0023 2200 2119 2101 2050 2042 L.T.(HRS.)

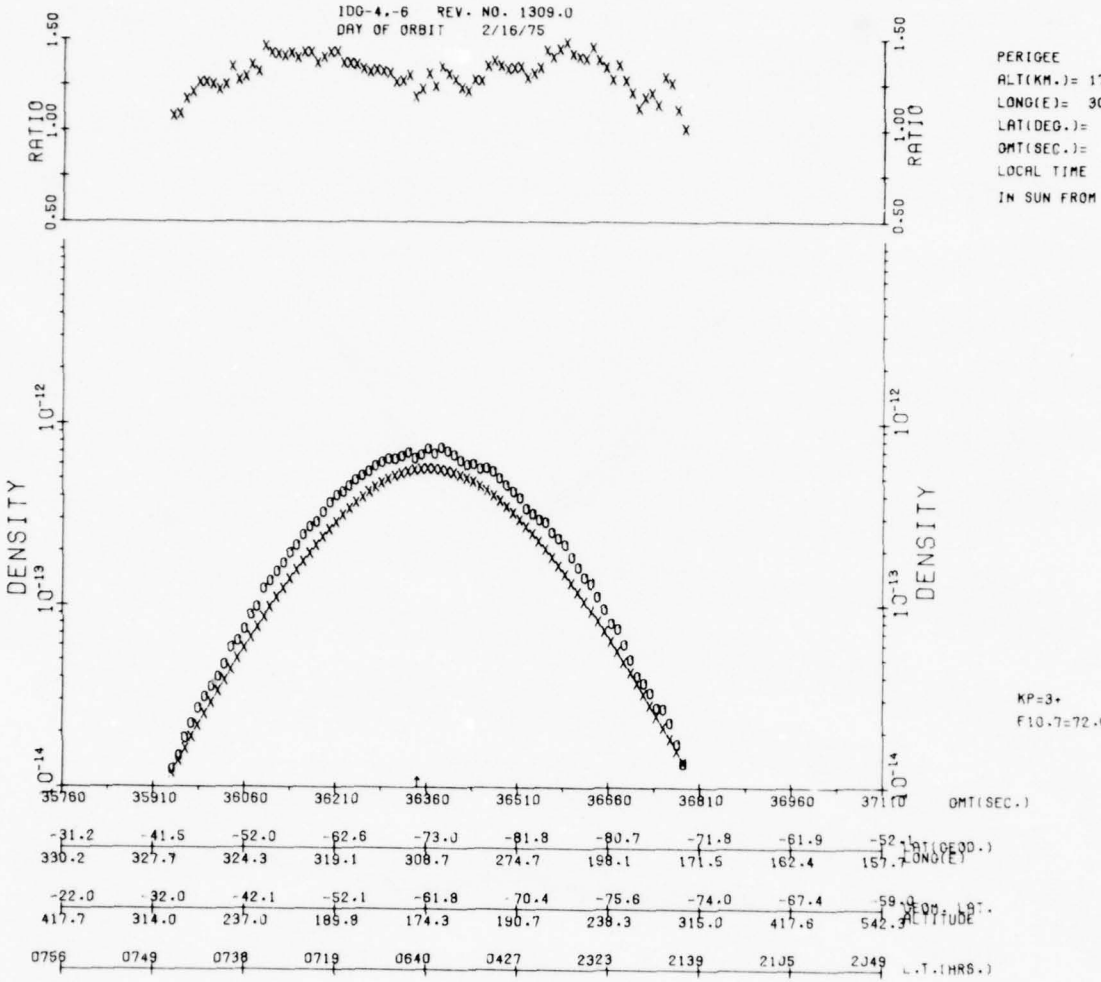

IDG-4.-B REV. NO. 1211.0
DAY OF ORBIT 2/ 8/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 175.81
LONG(E)= 121.88
LAT(DEG.)= -82.06
GMT(SEC.)= 58827.8 (1620M)
LOCAL TIME 0027 (M)
IN SUN FROM 58078. TO 59578.
KP=2+
F10.7=82.0
58078 58228 58378 58528 58678 58828 58978 59128 59278 59428 59578 GMT(SEC.)
-40.5 -50.4 -60.6 -70.8 -80.1 -82.1 -73.7 -63.4 -53.1 -42.8 -32.8 LAT(GEOC.)
238.2 235.2 230.6 222.2 198.0 121.9 84.7 73.7 60.4 64.9 82.4 LONG(E)
-33.0 -43.2 -53.6 -64.4 -75.3 -86.4 -82.2 -71.3 -60.6 -50.1 -40.0 GEOM. LAT.
548.9 421.9 317.6 240.0 192.1 175.9 192.1 240.1* 318.0 422.7 550.4 ALTITUDE
0800 0751 0735 0704 0529 0027 2201 2120 2101 2050 2042 L.T.(HRS.)

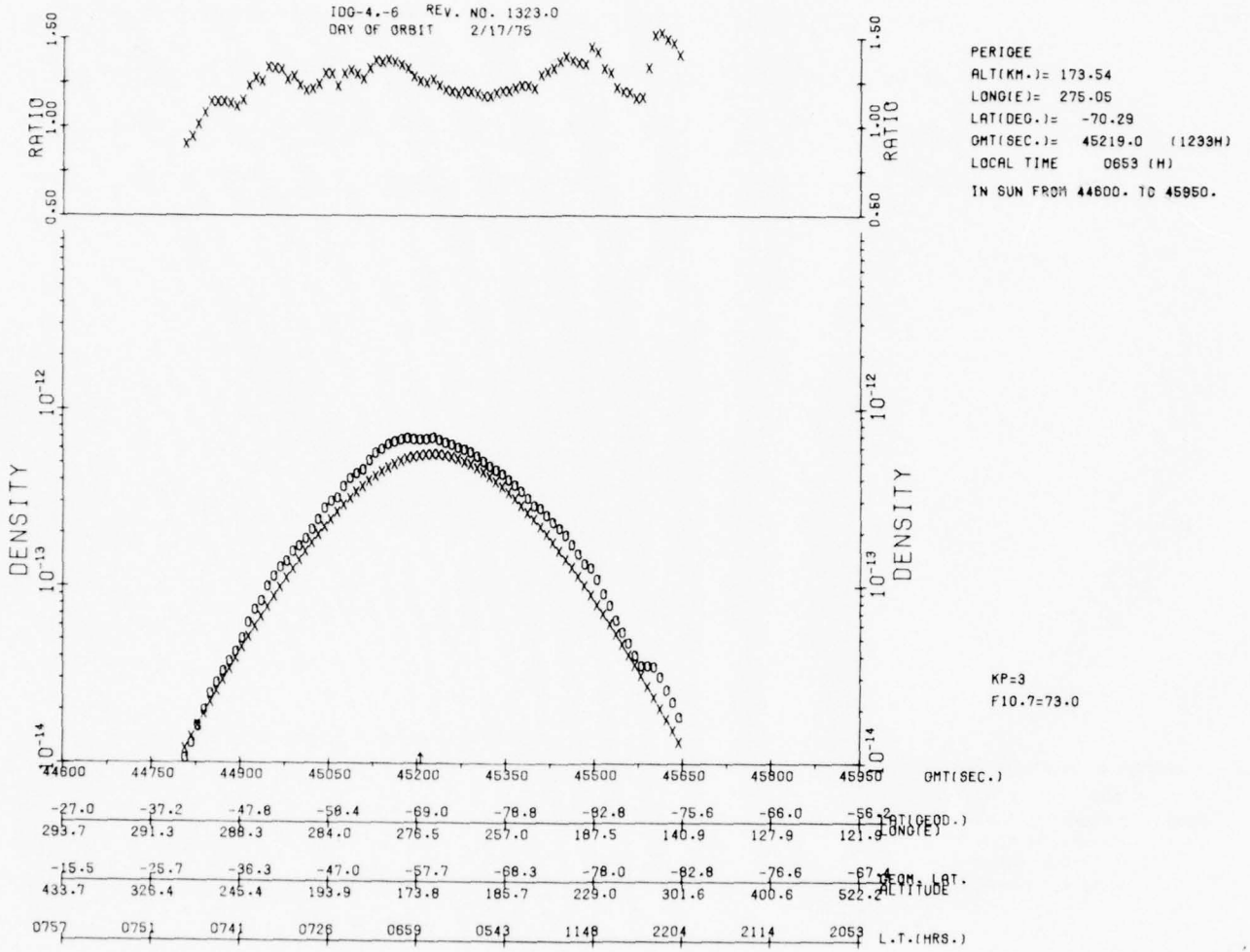

IDG-4.-6 REV. NO. 1212.0
DAY OF ORBIT 2/ 8/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 175.82
LONG(E)= 94.60
LAT(DEG.)= -82.15
GMT(SEC.)= 65667.8 (18H14M)
LOCAL TIME 0032 (H)
IN SUN FROM 64818. TO 66418.
KP=2+
F10.7=82.0
64818 65068 65218 65368 65518 65668 65818 65968 66118 66268 66418 GMT(SEC.)
-40.3 -50.2 -60.4 -70.6 -80.0 -82.2 -73.8 -63.6 -53.2 -43.0 -33.0 LAT(GEOD.)
209.8 206.7 202.1 193.9 170.2 94.6 56.5 45.3 39.8 36.4 33.8 LONG(E)
-37.6 -47.8 -58.2 -68.9 -79.3 -85.2 -76.8 -66.1 -55.5 -45.0 -34.8 GEOM. LAT.
548.8 421.9 317.6 240.0 192.1 175.9 192.1 240.1 318.0 422.7 550.5 ALTITUDE
0801 0751 0735 0704 0532 0032 2202 2120 2101 2050 2042 L.T.(HRS.)

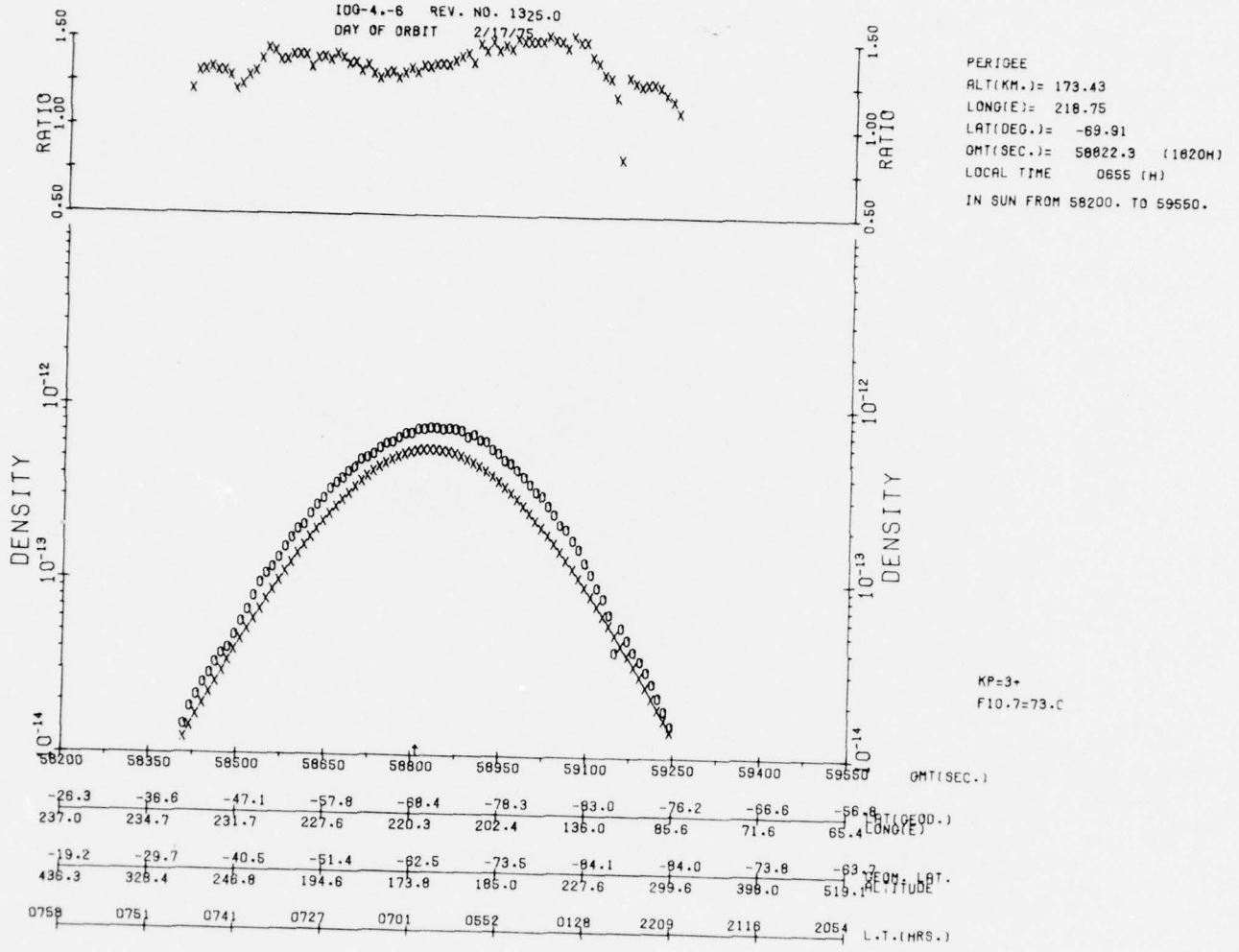

IDG-4,-6 REV. NO. 1213.0
DAY OF ORBIT 2/ 8/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 175.83
LONG(E)= 67.35
LAT(DEG.)= -82.24
GMT(SEC.)= 72507.6 (2009M)
LOCAL TIME 0037 (M)
IN SUN FROM 71758. TO 73258.
KP=1
F10.7=82.0
71758 71908 72058 72208 72358 72508 72658 72808 72958 73108 73258 GMT(SEC.)
-40.1 -50.0 -60.2 -70.4 -78.8 -82.2 -74.0 -63.8 -53.4 -43.2 -33.2 LAT(GEOD.)
181.3 178.2 173.7 165.6 142.5 67.3 28.3 16.9 11.4 8.0 5.4 LONG(E)
-43.1 -53.2 -63.6 -74.2 -84.0 -82.0 -71.6 -60.8 -50.1 -39.6 -29.5 GEOM. LAT.
548.9 421.9 317.6 240.0 192.1 175.9 192.1 240.1 318.0 422.6 550.2 ALTITUDE
0801 0751 0735 0705 0535 0037 2203 2121 2101 2050 2042 L.T.(HRS.)


IDG-4.-6 REV. NO. 1214.0
DAY OF ORBIT 2/ 8/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 175.94
LONG(E)= 40.13
LAT(DEG.)= -82.33
GMT(SEC.)= 79347.0 (2202H)
LOCAL TIME 0042 (H)
IN SUN FROM 78597. TO 80097.
KP=1
F10.7=82.0
78597 78747 78897 79047 79197 79347 79497 79647 79797 79947 80097 GMT(SEC.)
-39.8 -49.8 -60.0 -70.2 -79.7 -82.3 -74.2 -64.0 -53.6 -43.4 -33.4 LAT(GEOD.)
152.8 149.7 145.3 137.2 114.7 40.1 0.1 348.5 343.0 339.5 336.8 LONG(E)
-48.0 -58.1 -68.6 -79.3 -88.6 -78.5 -67.5 -56.5 -45.8 -35.3 -25.1 GEOM. LAT.
548.9 421.8 317.6 240.0 192.1 175.9 192.1 240.1 317.9 422.6 550.1 ALTITUDE
0801 0751 0736 0706 0538 0042 2205 2121 2101 2050 2042 L.T.(HRS.)


IDG-4.-6 REV. NO. 1222.0
DAY OF ORBIT 2/ 9/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 176.01
LONG(E)= 183.67
LAT(DEG.)= -82.88
GMT(SEC.)= 47652.0 (1314H)
LOCAL TIME 0810 (H)
IN SUN FROM 46902. TO 48402.
KP=2+
F10.7=81.0
46902 47052 47202 47352 47502 47652 47802 47952 48102 48252 48402
GMT(SEC.)
-38.3 -48.3 -58.5 -68.7 -78.5 -82.9 -75.6 -65.6 -55.2 -45.0 -35.0
284.9 282.0 277.9 270.6 252.1 183.6 134.8 121.4 115.4 111.7 109.0
GEOM. LAT.(DEGD.)
LONG(E)
-26.9 -36.9 -47.2 -57.7 -68.3 -78.5 -84.0 -76.7 -66.7 -56.5 -46.5
548.7 421.7 317.5 240.0 192.2 176.0 192.2 240.0 317.7 422.1 549.3
ALTITUDE
0801 0752 0738 0711 0600 0810 2216 2124 2103 2050 2042
L.T.(HRS.)


IDG-4.-6 REV. NO. 1309.0
DAY OF ORBIT 2/16/75
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 174.25
LONG(E)= 308.94
LAT(DEG.)= -72.87
GMT(SEC.)= 36357.9 (1005H)
LOCAL TIME 0641 (H)
IN SUN FROM 35760. TO 37110.
KP=3+
F10.7=72.0
35760 35910 36060 36210 36360 36510 36660 36810 36960 37110 GMT(SEC.)
-31.2 -41.5 -52.0 -62.6 -73.0 -81.8 -80.7 -71.8 -61.9 -52.1 LAT(DEGD.)
330.2 327.7 324.3 319.1 308.7 274.7 198.1 171.5 162.4 157.7 LONG(E)
-22.0 -32.0 -42.1 -52.1 -61.8 -70.4 -75.6 -74.0 -67.4 -59.0 GEOG. LAT.
417.7 314.0 237.0 189.8 174.3 190.7 238.3 315.0 417.6 542.3 ALTITUDE
0756 0749 0738 0719 0640 0427 2323 2139 2105 2049 L.T.(HRS.)

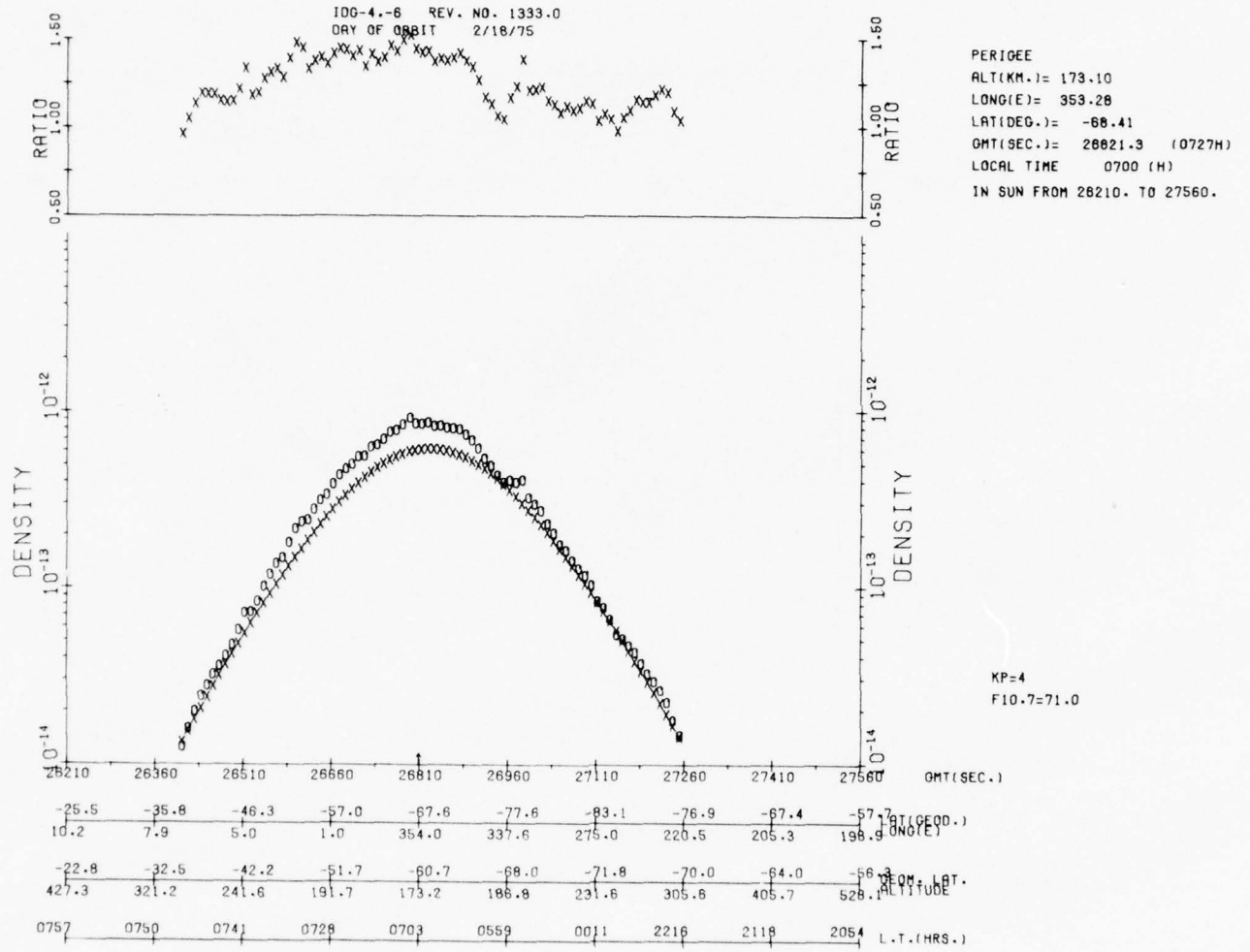

IDG-4.-6 REV. NO. 1323.0
DAY OF ORBIT 2/17/75
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 173.54
LONG(E)= 275.05
LAT(DEG.)= -70.29
GMT(SEC.)= 45219.0 (1233H)
LOCAL TIME 0653 (H)
IN SUN FROM 44600. TO 45950.
KP=3
F10.7=73.0
44600 44750 44900 45050 45200 45350 45500 45650 45800 45950 GMT(SEC.)
-27.0 -37.2 -47.8 -58.4 -69.0 -78.8 -82.8 -75.6 -66.0 -56.2 LAT(DEGD.)
293.7 291.3 288.3 284.0 276.5 257.0 187.5 140.9 127.9 121.9 LONG(E)
-15.5 -25.7 -36.3 -47.0 -57.7 -68.3 -78.0 -82.8 -76.6 -67.4 GEOM. LAT.
433.7 326.4 245.4 193.9 173.8 185.7 229.0 301.6 400.6 522.2 ALTITUDE
0757 0751 0741 0726 0659 0543 1148 2204 2114 2053 L.T.(HRS.)

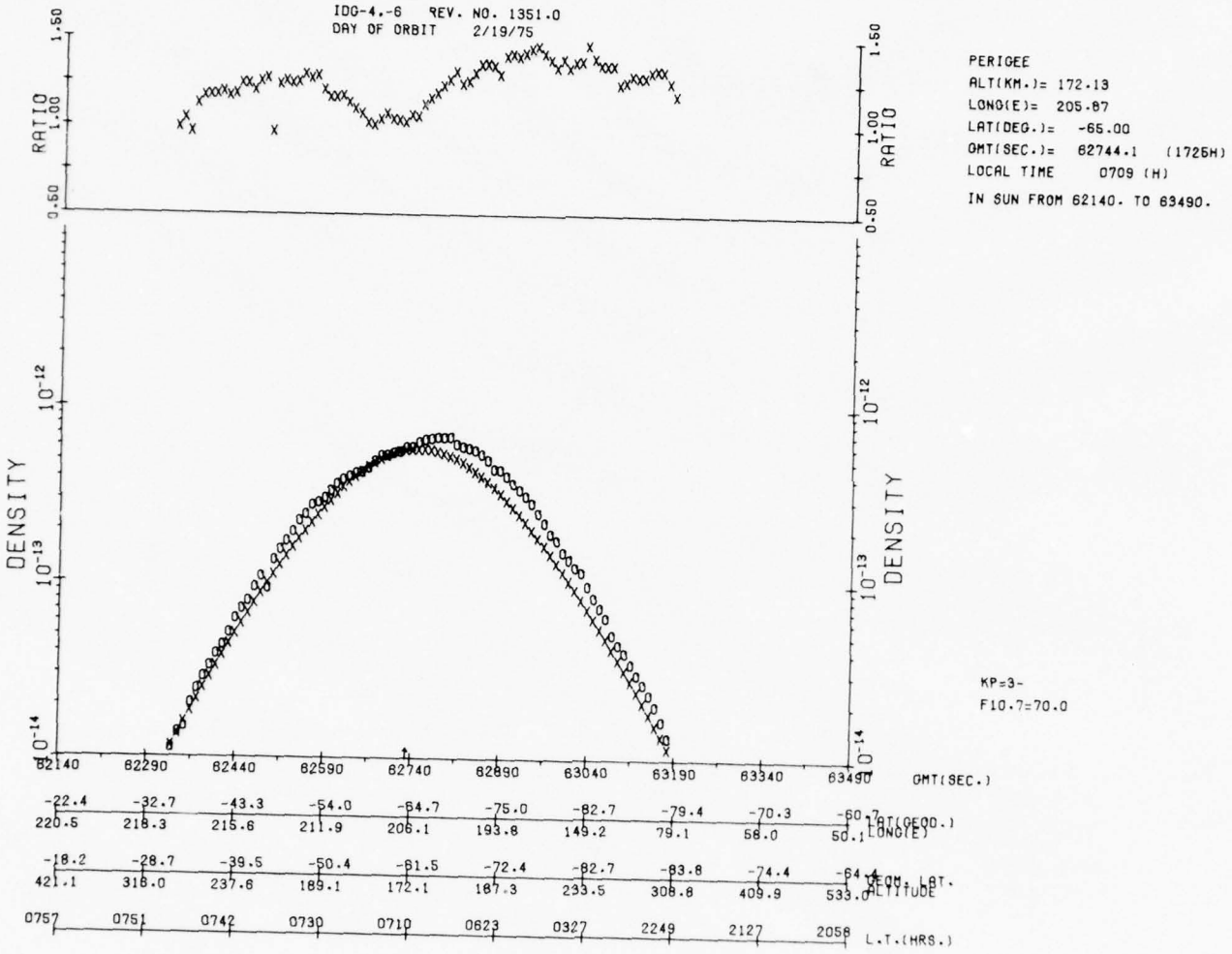


PERIGEE
ALT(KM.)= 173.43
LONG(E)= 218.75
LAT(DEG.)= -69.91
GMT(SEC.)= 58822.3 (1620H)
LOCAL TIME 0655 (H)

IN SUN FROM 58200. TO 59550.

KP=3+
F10.7=73.C

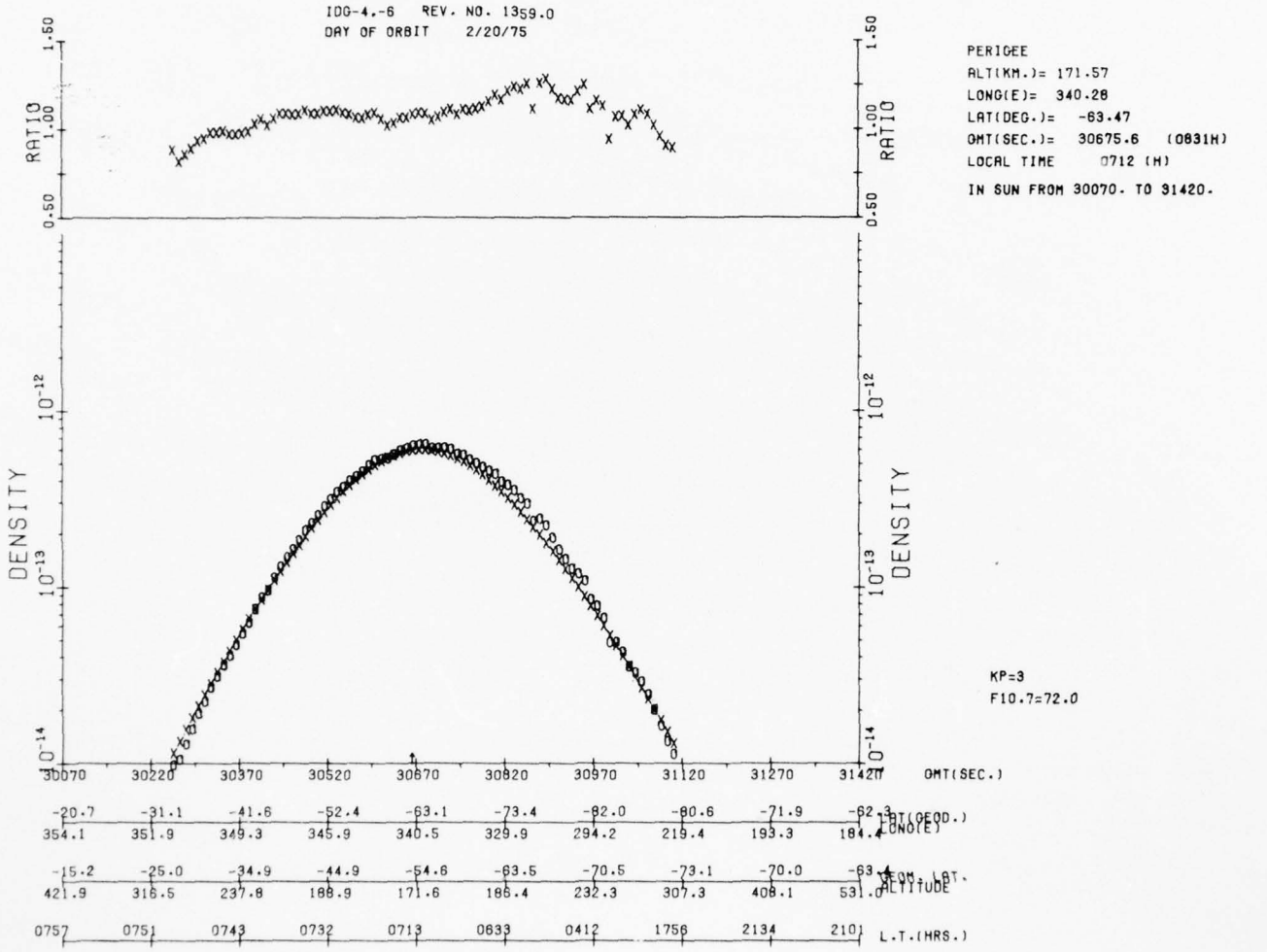

IDG-4.-6 REV. NO. 1333.0
DAY OF ORBIT 2/18/75
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 173.10
LONG(E)= 353.28
LAT(DEG.)= -68.41
GMT(SEC.)= 28821.3 (0727H)
LOCAL TIME 0700 (H)
IN SUN FROM 28210. TO 27560.
KP=4
F10.7=71.0
28210 28360 28510 28660 28810 28960 27110 27260 27410 27560 GMT(SEC.)
-25.5 -35.8 -46.3 -57.0 -67.6 -77.6 -83.1 -76.9 -67.4 -57.7 LAT(GEOD.)
10.2 7.9 5.0 1.0 354.0 337.6 275.0 220.5 205.3 198.9 LONG(E)
-22.8 -32.5 -42.2 -51.7 -60.7 -68.0 -71.8 -70.0 -64.0 -56.3 GEOM. LAT.
427.3 321.2 241.6 191.7 173.2 186.8 231.6 305.6 405.7 528.1 ALTITUDE
0757 0750 0741 0728 0703 0559 0011 2216 2118 2054 L.T.(HRS.)

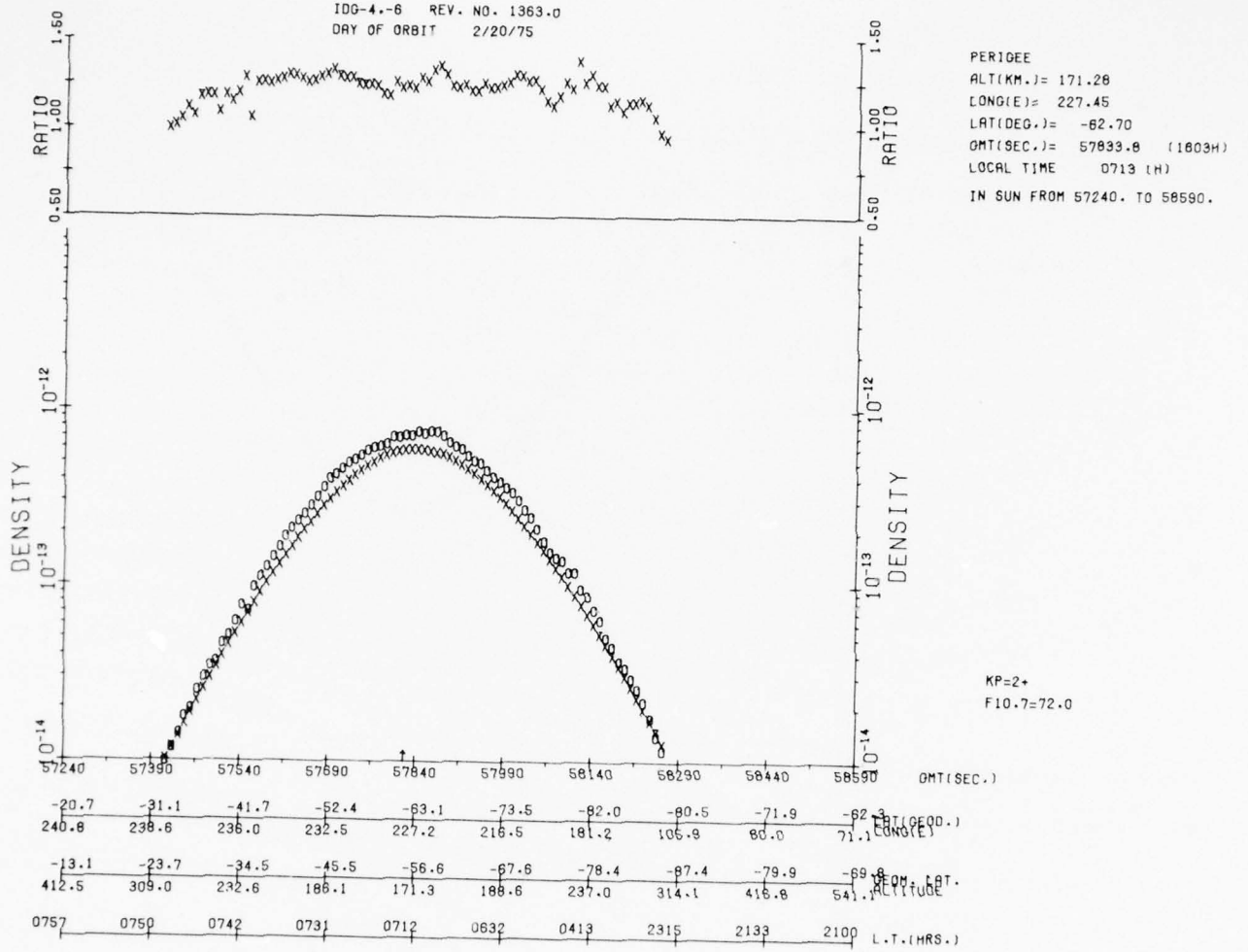


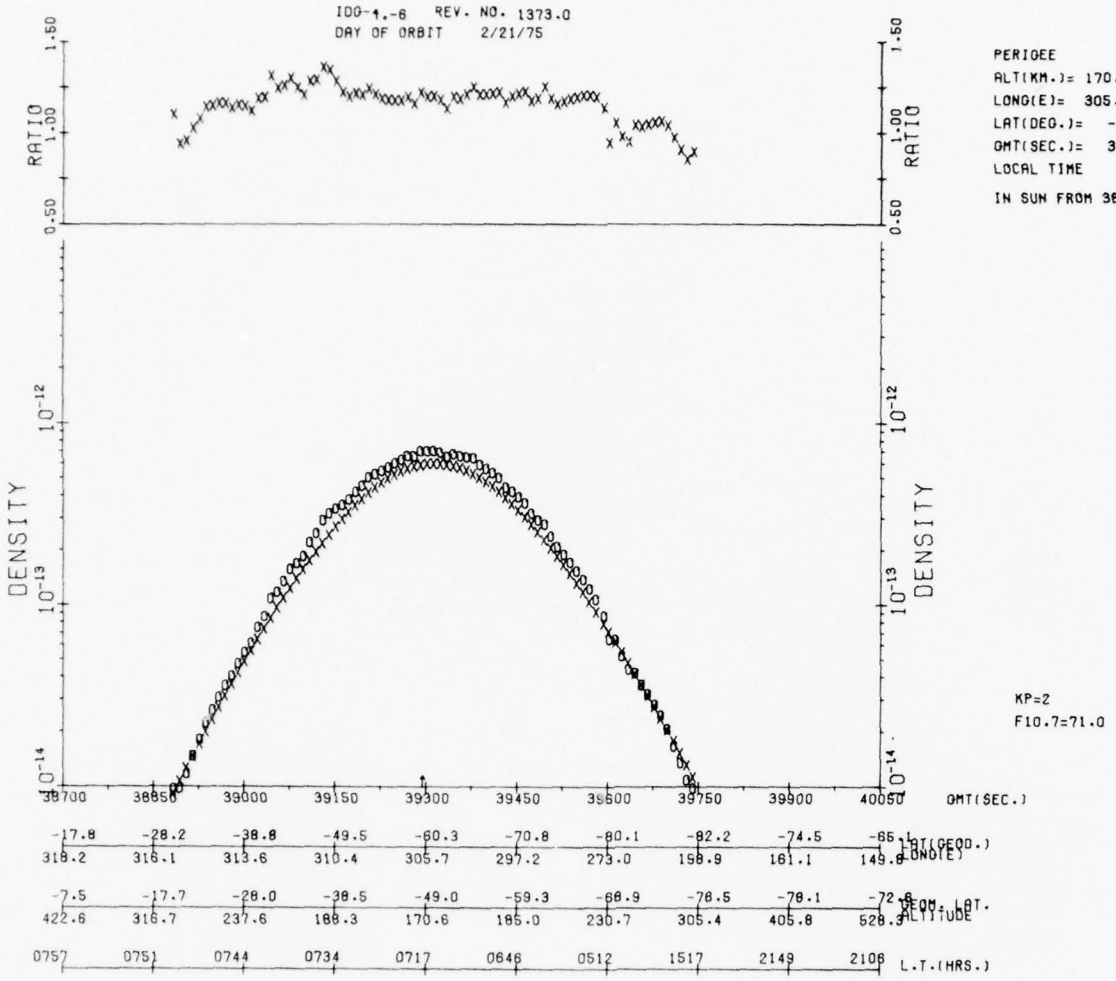
PERIGEE
ALT(KM.)= 172.13
LONG(E)= 205.87
LAT(DEG.)= -65.00
GMT(SEC.)= 62744.1 (1725H)
LOCAL TIME 0709 (H)

IN SUN FROM 62140. TO 63490.

KP=3-
F10.7=70.0


IDG-4.-6 REV. NO. 1359.0
DAY OF ORBIT 2/20/75
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 171.57
LONG(E)= 340.28
LAT(DEG.)= -63.47
GMT(SEC.)= 30675.6 (0831H)
LOCAL TIME 0712 (H)
IN SUN FROM 30070. TO 31420.
KP=3
F10.7=72.0
30070 30220 30370 30520 30670 30820 30970 31120 31270 31420 GMT(SEC.)
-20.7 -31.1 -41.6 -52.4 -63.1 -73.4 -82.0 -80.6 -71.9 -62.3 LAT(GEOD.)
354.1 351.9 349.3 345.9 340.5 329.9 294.2 219.4 193.3 184.4 LONG(E)
-15.2 -25.0 -34.9 -44.9 -54.6 -63.5 -70.5 -73.1 -70.0 -63.4 GEOM. LAT.
421.9 316.5 237.8 188.9 171.6 186.4 232.3 307.3 408.1 531.0 ALTITUDE
0757 0751 0743 0732 0713 0633 0412 1756 2134 2101 L.T.(HRS.)

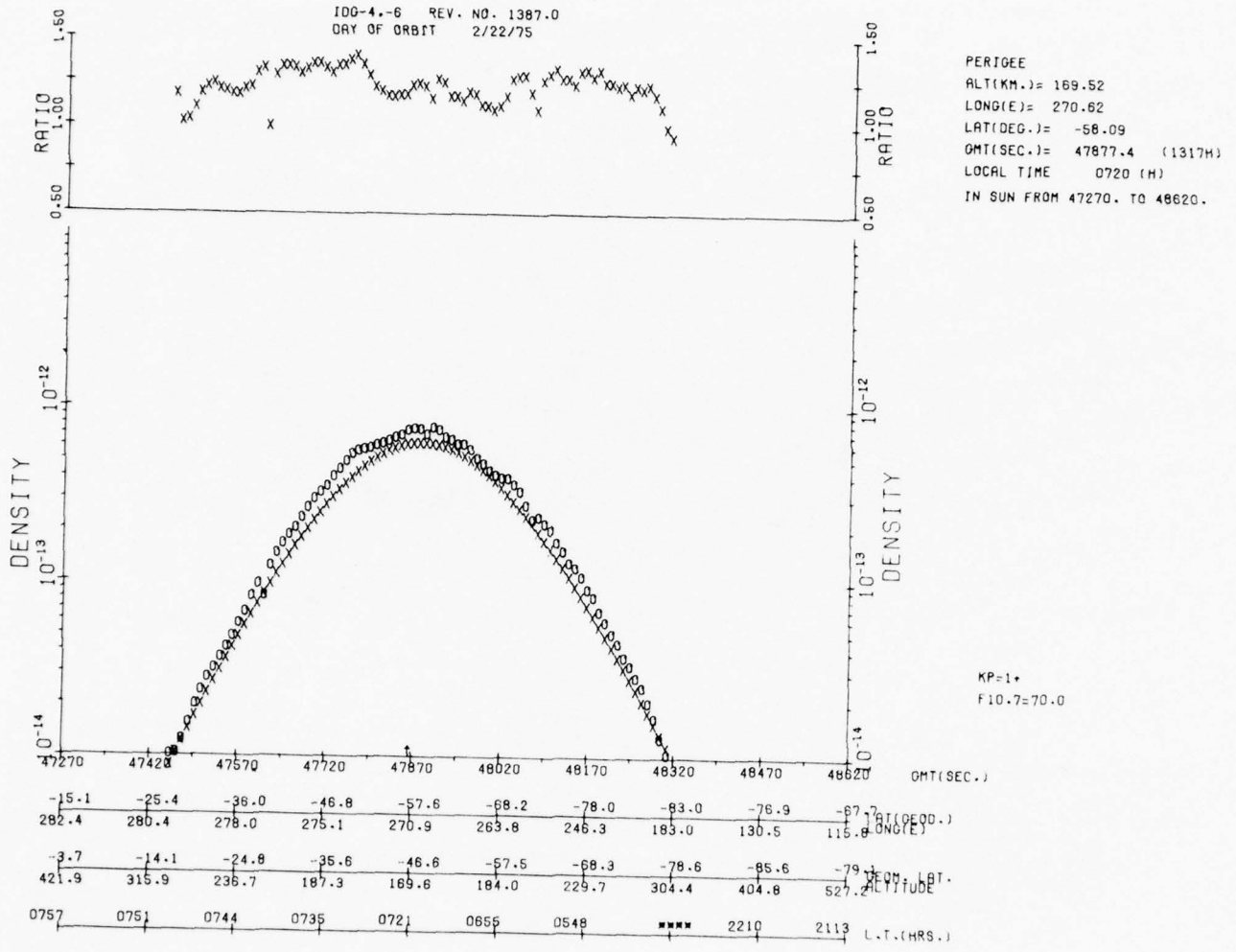

IDG-4.-6 REV. NO. 1363.0
DAY OF ORBIT 2/20/75
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 171.28
LONG(E)= 227.45
LAT(DEG.)= -62.70
GMT(SEC.)= 57833.8 (1603H)
LOCAL TIME 0713 (H)
IN SUN FROM 57240. TO 58590.
KP=2+
F10.7=72.0
57240 57390 57540 57690 57840 57990 58140 58290 58440 58590 GMT(SEC.)
-20.7 -31.1 -41.7 -52.4 -63.1 -73.5 -82.0 -80.5 -71.9 -62.3 LAT(GEOD.)
240.8 238.6 236.0 232.5 227.2 216.5 181.2 106.9 80.0 71.1 LONG(E)
-13.1 -23.7 -34.5 -45.5 -56.6 -67.6 -78.4 -87.4 -79.9 -69.8 GEOM. LAT.
412.5 309.0 232.6 186.1 171.3 188.6 237.0 314.1 416.8 541.1 ALTITUDE
0757 0750 0742 0731 0712 0632 0413 2315 2133 2100 L.T.(HRS.)



PERIGEE
ALT(KM.)= 170.55
LONG(E)= 305.44
LAT(DEG.)= -80.78
GMT(SEC.)= 39307.3 (1055H)
LOCAL TIME 0716 (H)

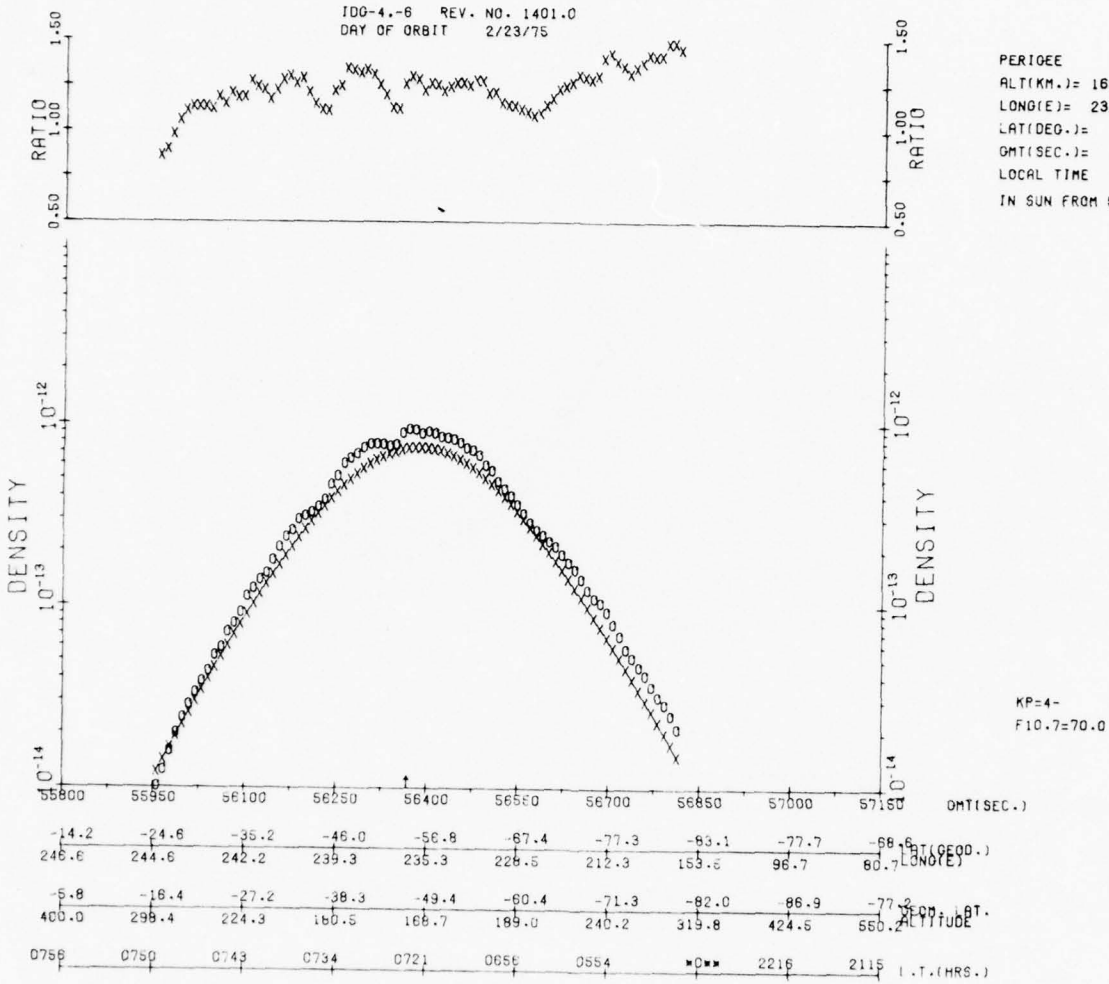
IN SUN FROM 38700. TO 40050.

KP=2
F10.7=71.0



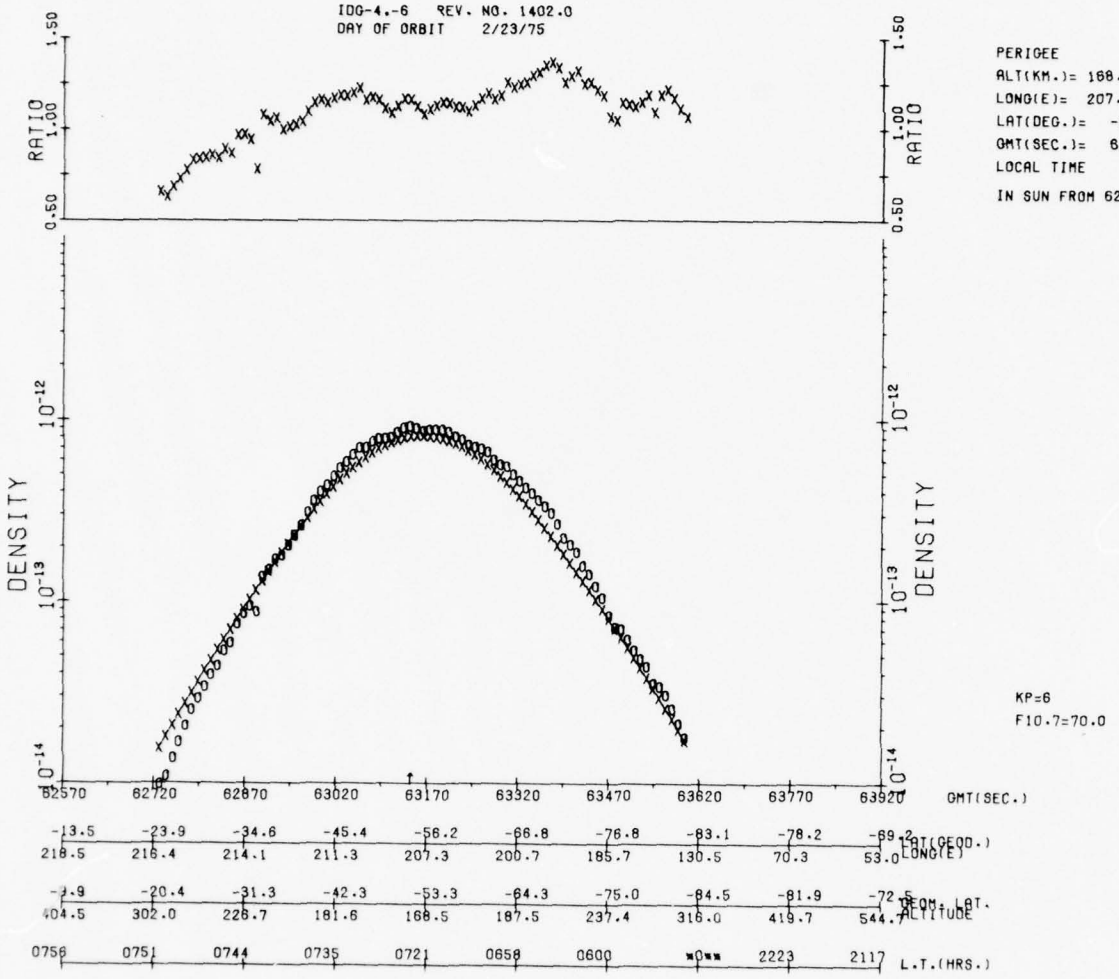
PERIGEE
ALT(KM.)= 169.52
LONG(E)= 270.62
LAT(DEG.)= -58.09
GMT(SEC.)= 47877.4 (1317H)
LOCAL TIME 0720 (H)
IN SUN FROM 47270. TO 48620.

KP=1+
F10.7=70.0



PERIGEE
ALT(KM.)= 168.41
LONG(E)= 235.91
LAT(DEG.)= -55.39
GMT(SEC.)= 56380.0 (1539M)
LOCAL TIME 0723 (H)
IN SUN FROM 55800. TO 57150.

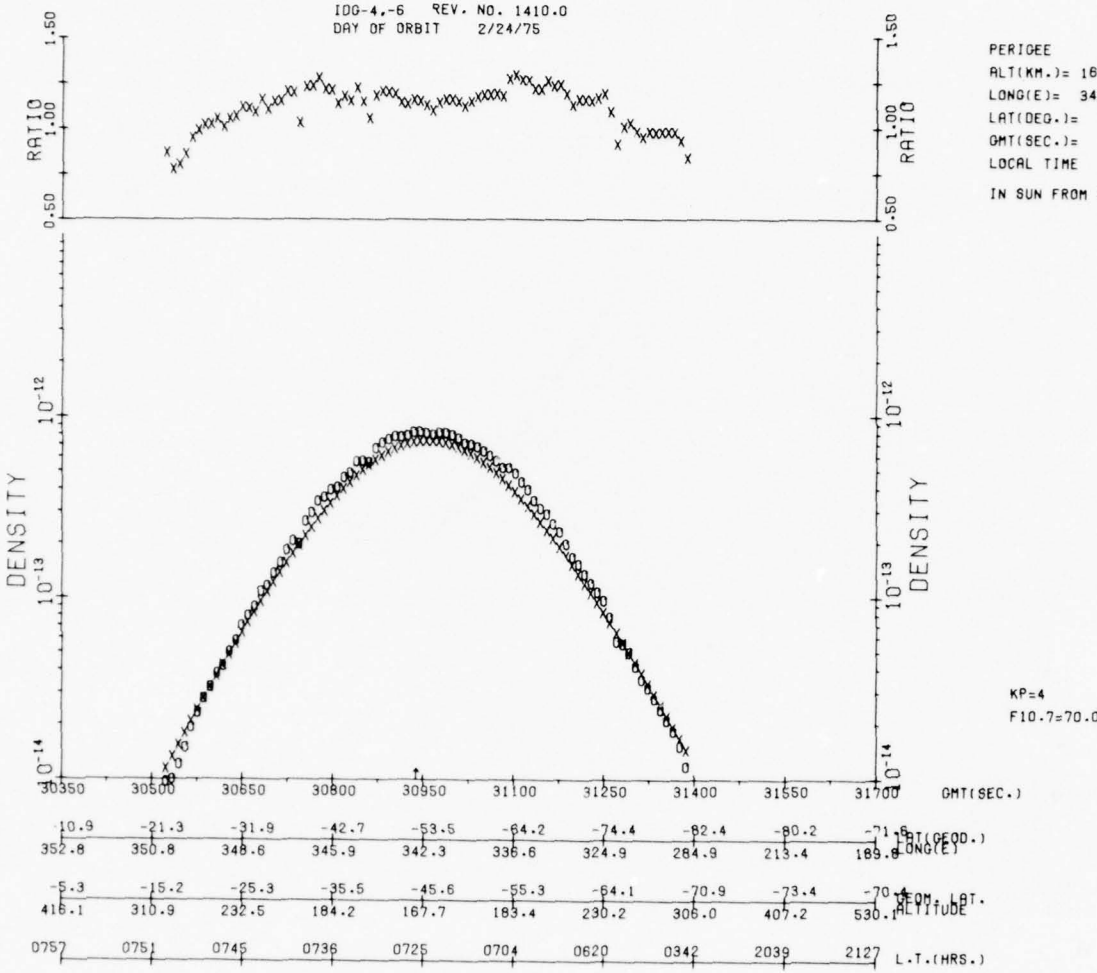
KP=4-
F10.7=70.0



PERIGEE
ALT(KM.)= 168.33
LONG(E)= 207.73
LAT(DEG.)= -55.20
GMT(SEC.)= 63156.1 (1732H)
LOCAL TIME 0723 (H)

IN SUN FROM 62570. TO 63920.

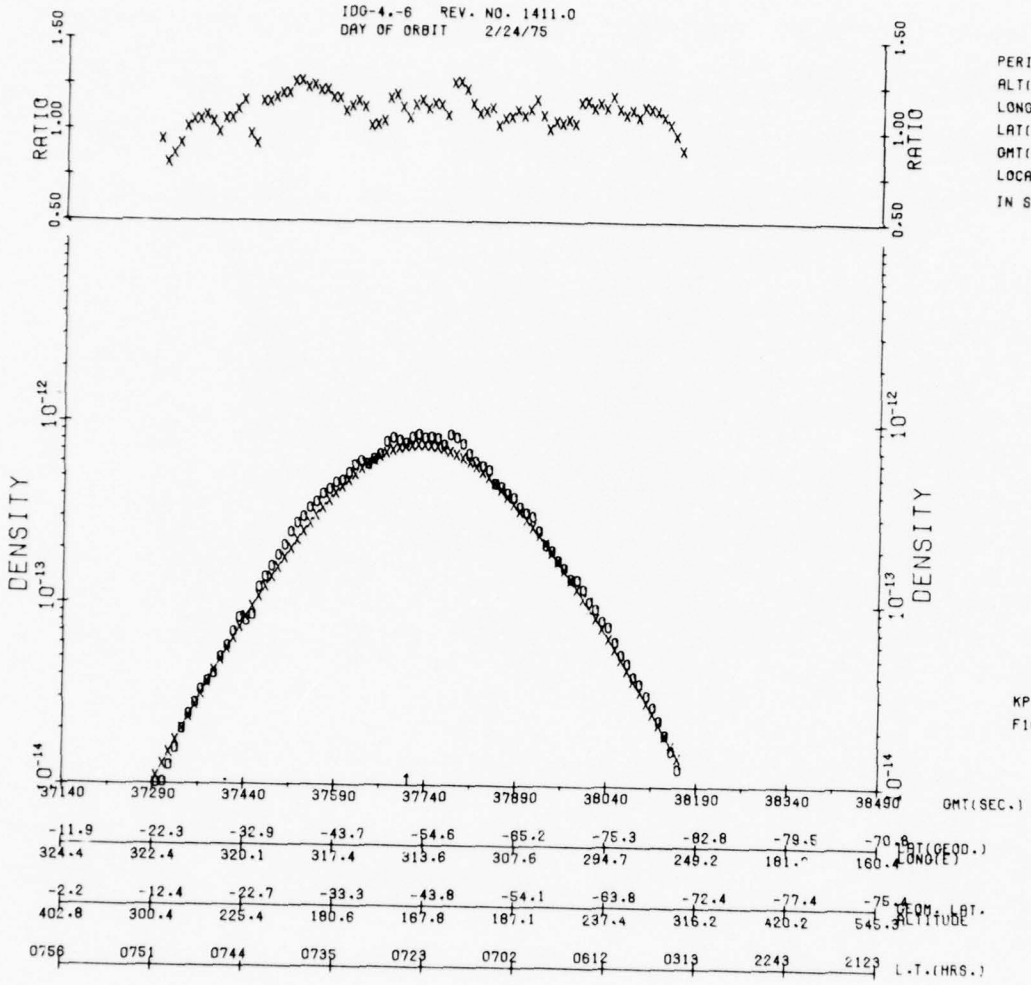
KP=6
F10.7=70.0



PERIGEE
ALT(KM.)= 167.67
LONG(E)= 342.25
LAT(DEG.)= -63.65
GMT(SEC.)= 30951.7 (0835H)
LOCAL TIME 0724 (H)

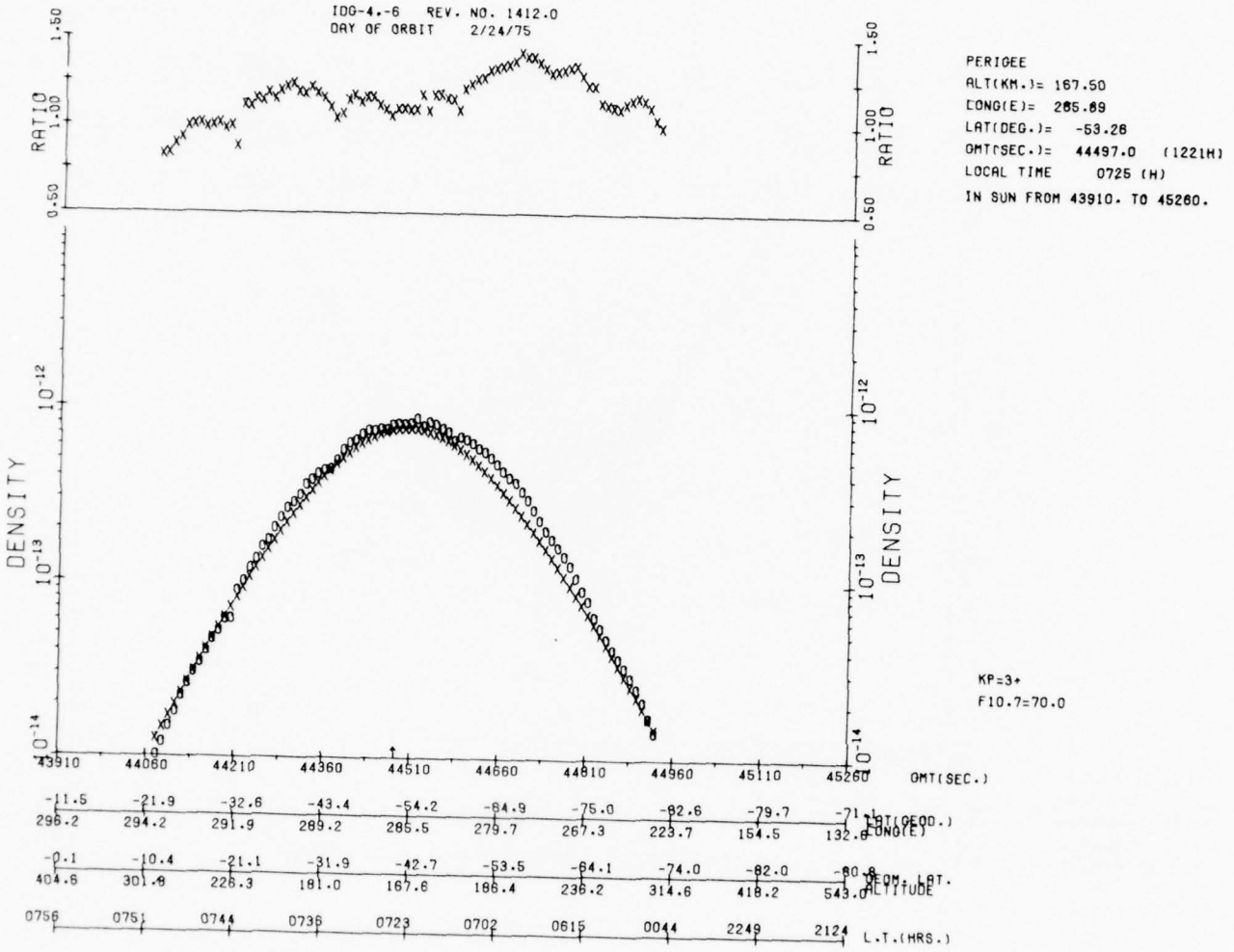
IN SUN FROM 30350. TO 31700.

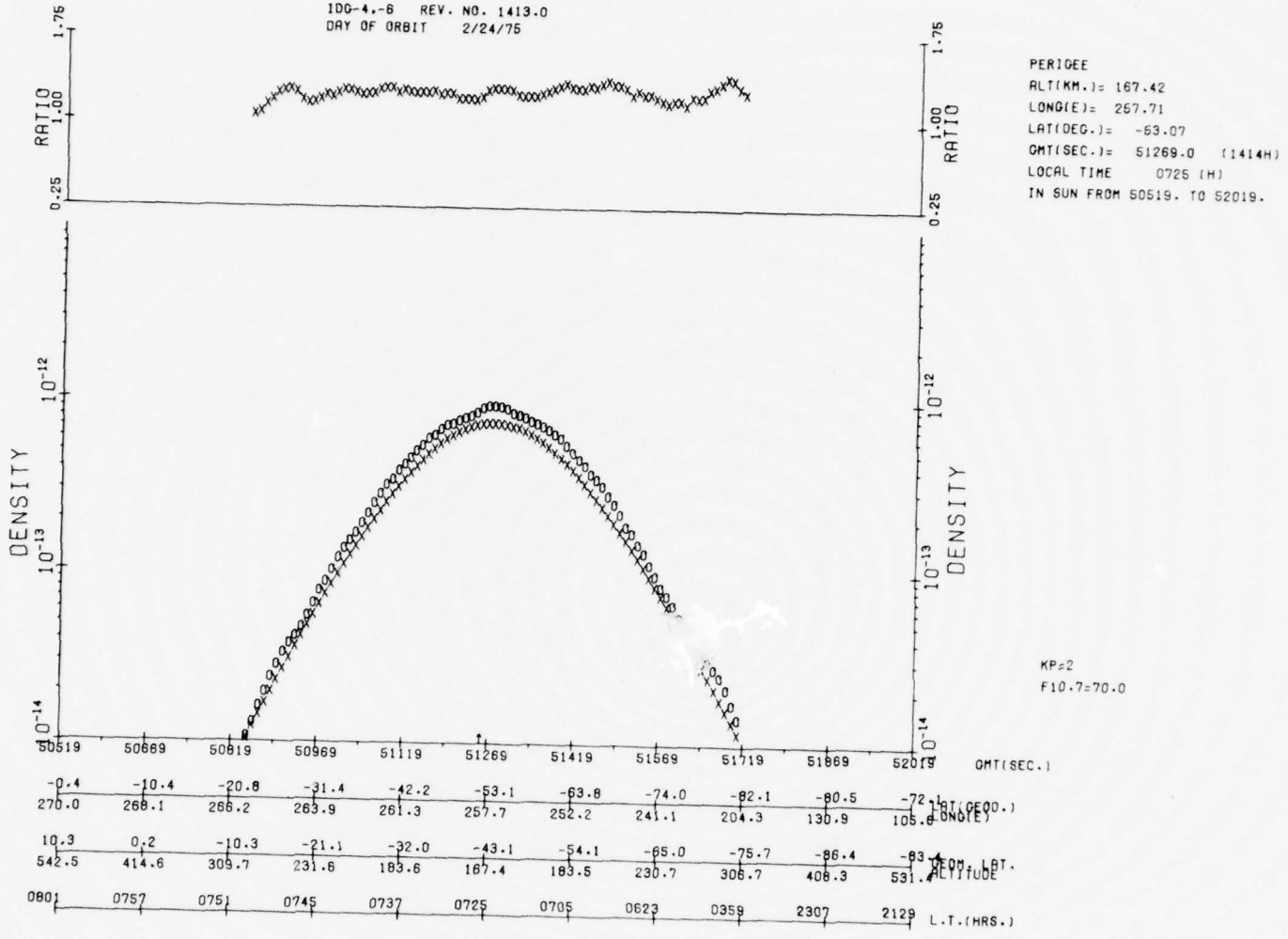
KP=4
F10.7=70.0

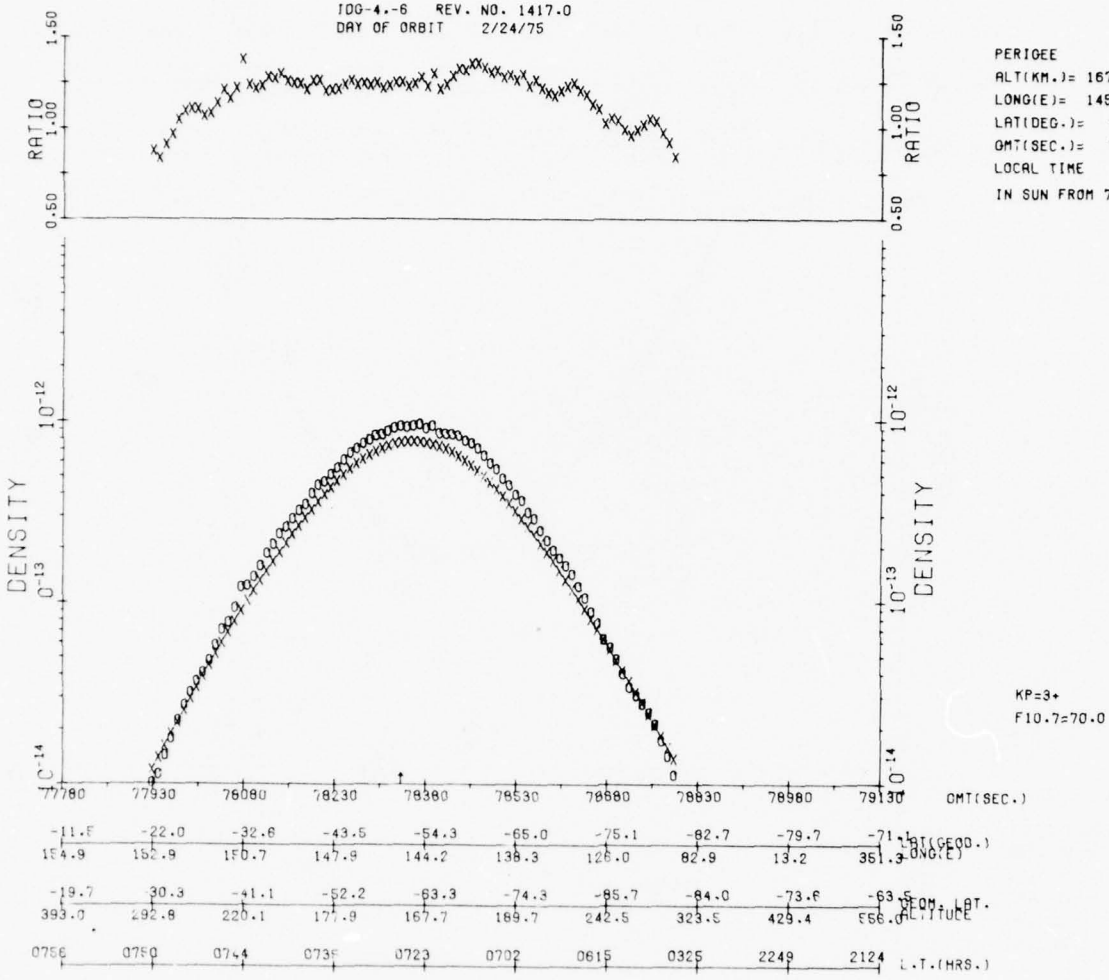


PERIGEE
ALT(KM.)= 167.58
LONG(E)= 314.07
LAT(DEG.)= -53.48
GMT(SEC.)= 37724.6 (1028H)
LOCAL TIME 0726 (H)
IN SUN FROM 37140. TO 38490.

KP=3+
F10.7=70.0

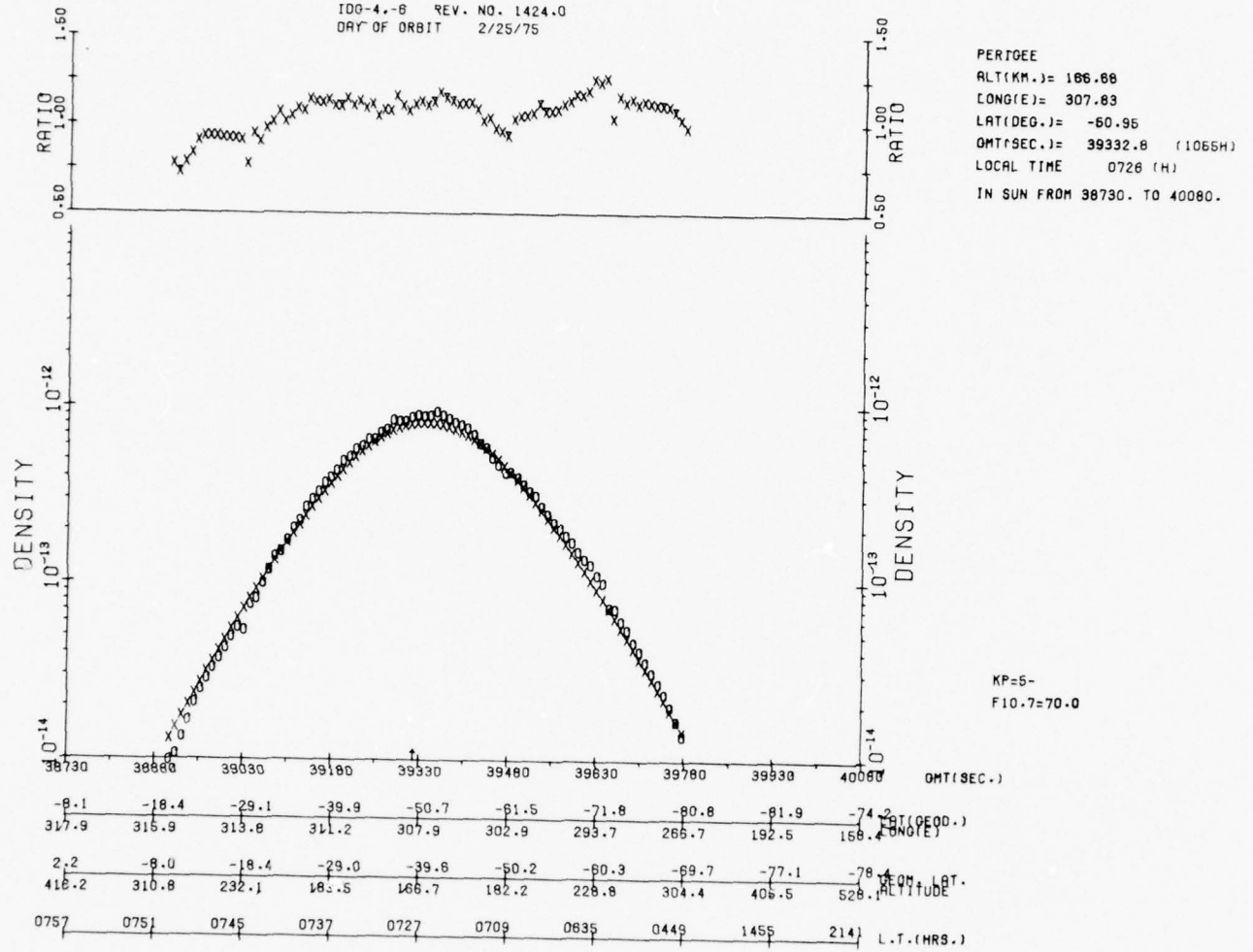

IDG-4.-6 REV. NO. 1412.0
DAY OF ORBIT 2/24/75
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 167.50
LONG(E.)= 285.89
LAT(DEG.)= -53.28
GMT(SEC.)= 44497.0 (1221H)
LOCAL TIME 0725 (H)
IN SUN FROM 43910. TO 45260.
KP=3+
F10.7=70.0
43910 44060 44210 44360 44510 44660 44810 44960 45110 45260 GMT(SEC.)
-11.5 -21.9 -32.6 -43.4 -54.2 -64.9 -75.0 -82.6 -79.7 -71.1 LAT(GEOD.)
296.2 294.2 291.9 289.2 285.5 279.7 267.3 223.7 154.5 132.8 LONG(E)
-0.1 -10.4 -21.1 -31.9 -42.7 -53.5 -64.1 -74.0 -82.0 -80.8 GEOM. LAT.
404.6 301.9 226.3 181.0 167.6 186.4 236.2 314.6 418.2 543.0 ALTITUDE
0756 0751 0744 0736 0723 0702 0615 0044 2249 2124 L.T.(HRS.)

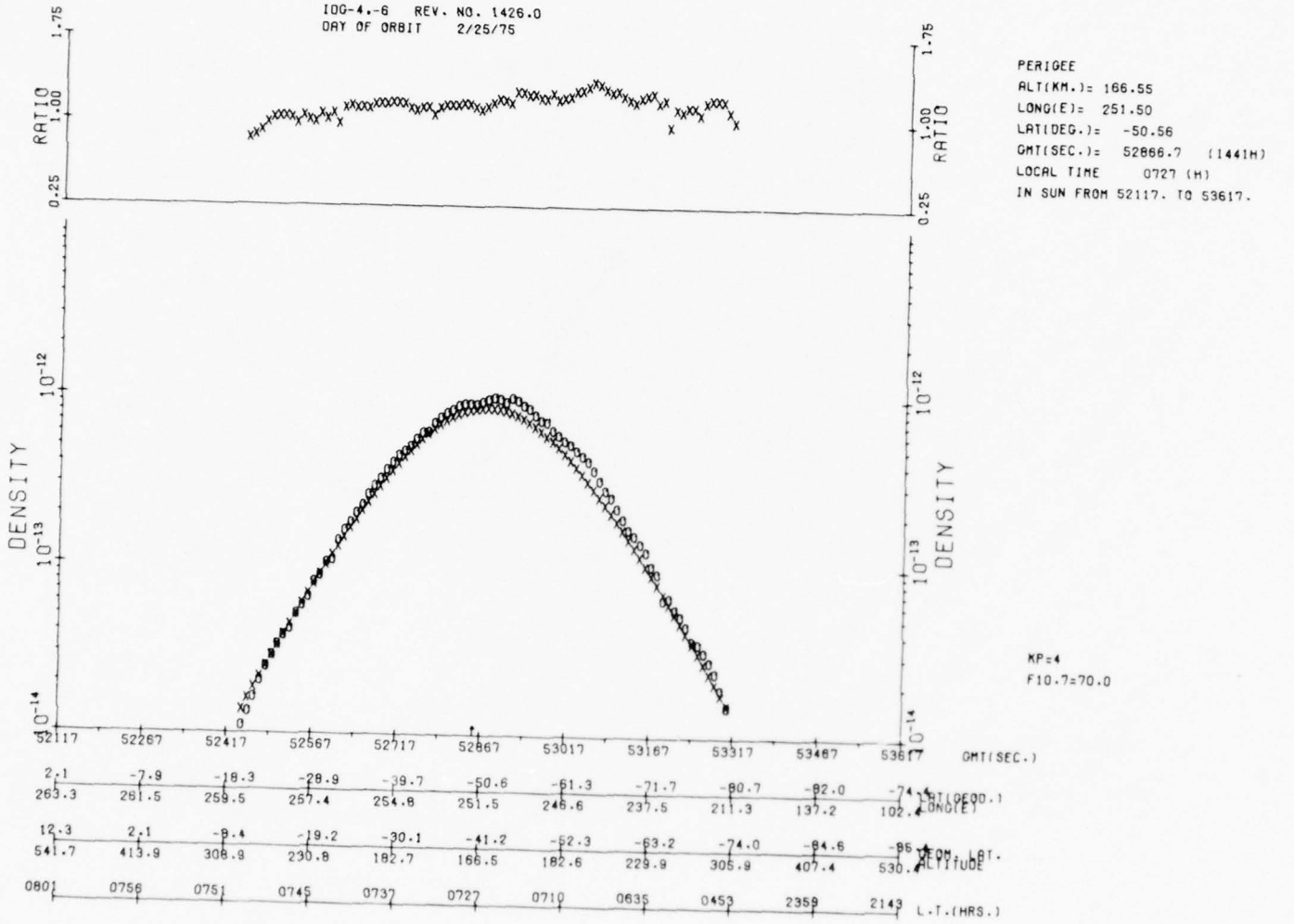

IDG-4,-6 REV. NO. 1413.0
DAY OF ORBIT 2/24/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 167.42
LONG(E)= 257.71
LAT(DEG.)= -63.07
GMT(SEC.)= 51269.0 (1414H)
LOCAL TIME 0725 (H)
IN SUN FROM 50519. TO 52019.
KP=2
F10.7=70.0
50519 50669 50819 50969 51119 51269 51419 51569 51719 51869 52019 GMT(SEC.)
-0.4 -10.4 -20.8 -31.4 -42.2 -53.1 -63.8 -74.0 -82.1 -80.5 -72.1 LAT(DEGD.)
270.0 268.1 266.2 263.9 261.3 257.7 252.2 241.1 204.3 130.9 105.6 LONG(E)
10.3 0.2 -10.3 -21.1 -32.0 -43.1 -54.1 -65.0 -75.7 -86.4 -83.4 DEGD. LAT.
542.5 414.6 309.7 231.6 183.6 167.4 183.5 230.7 308.7 408.3 531.4 ALTITUDE
0801 0757 0751 0745 0737 0725 0705 0623 0359 2307 2129 L.T.(HRS.)

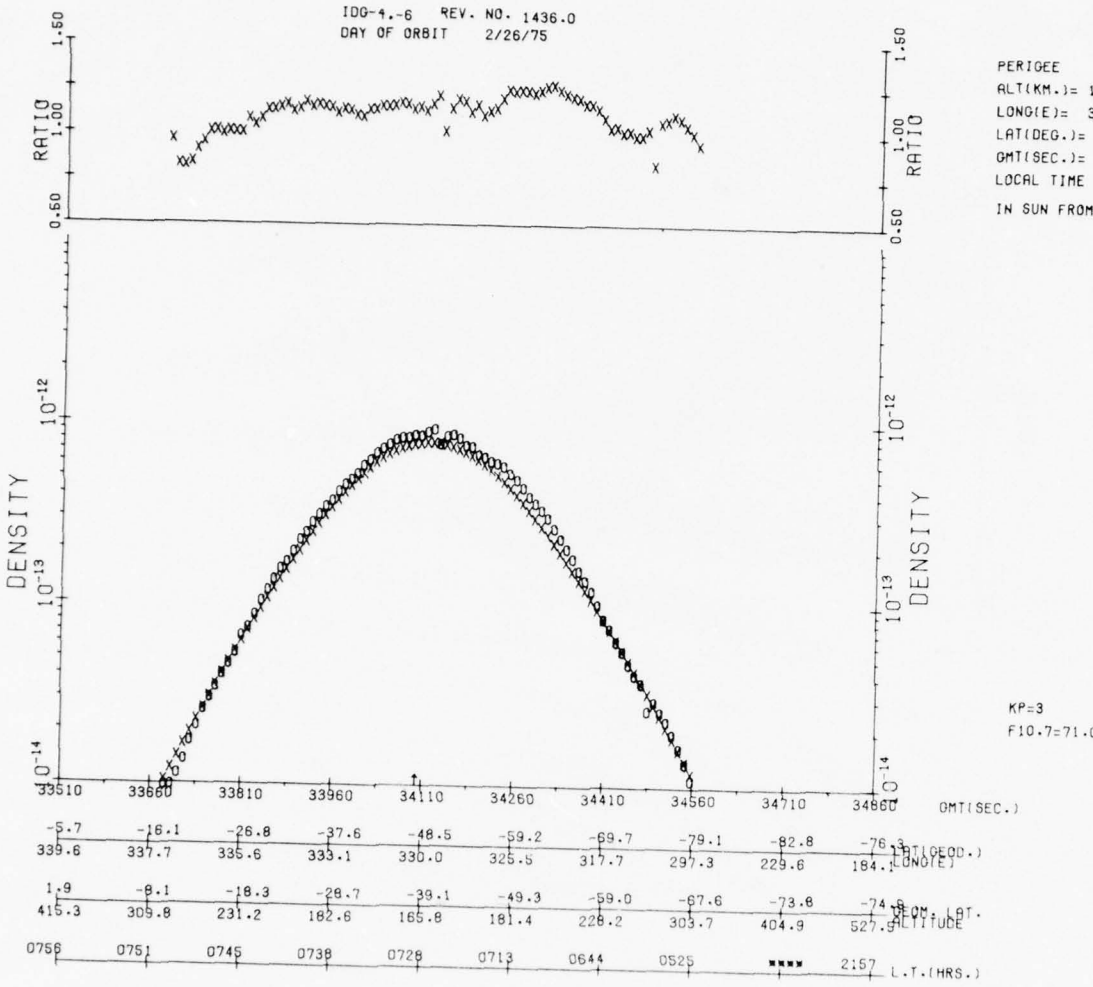


PERIGEE
ALT(KM.)= 167.16
LONG(E)= 145.01
LAT(DEG.)= -52.30
GMT(SEC.)= 78352.1 (2145H)
LOCAL TIME 0725 (H)
IN SUN FROM 77780. TO 79130.

KP=3+
F10.7=70.0

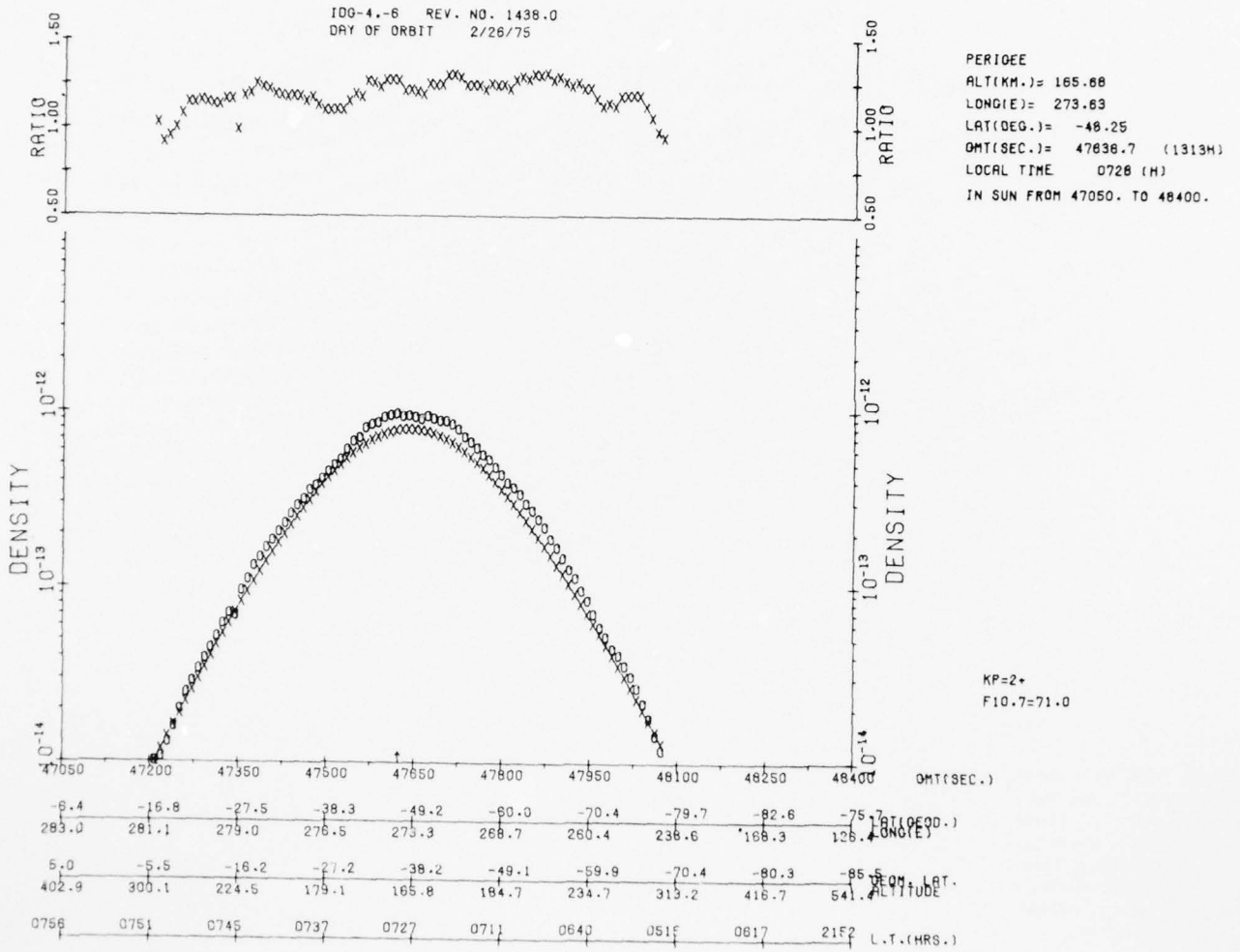

IDG-4,-6 REV. NO. 1424.0
DAY OF ORBIT 2/25/75
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 166.68
LONG(E)= 307.83
LAT(DEG.)= -60.95
GMT(SEC.)= 39332.8 (10955H)
LOCAL TIME 0728 (H)
IN SUN FROM 38730. TO 40080.
KP=5-
F10.7=70.0
38730 38880 39030 39180 39330 39480 39630 39780 39930 40080 GMT(SEC.)
-8.1 -18.4 -29.1 -39.9 -50.7 -61.5 -71.8 -80.8 -81.9 -74.2 LAT(DEGD.)
317.9 315.9 313.8 311.2 307.9 302.9 293.7 266.7 192.5 158.4 LONG(E)
2.2 -8.0 -18.4 -29.0 -39.6 -50.2 -60.3 -69.7 -77.1 -78.4 KM FROM LAT.
416.2 310.8 232.1 183.5 166.7 182.2 228.8 304.4 406.5 528.1 ALTITUDE
0757 0751 0745 0737 0727 0709 0635 0449 1455 2141 L.T.(HRS.)


IDG-4.-6 REV. NO. 1426.0
DAY OF ORBIT 2/25/75
RATIO
1.75
1.00
0.25
PERIGEE
ALT(KM.)= 166.55
LONG(E)= 251.50
LAT(DEG.)= -50.56
GMT(SEC.)= 52866.7 (1441M)
LOCAL TIME 0727 (H)
IN SUN FROM 52117. TO 53617.
DENSITY
10^{-12}
10^{-13}
10^{-14}
KP=4
F10.7=70.0
52117 52267 52417 52567 52717 52867 53017 53167 53317 53467 53617 GMT(SEC.)
2.1 -7.9 -18.3 -28.9 -39.7 -50.6 -61.3 -71.7 -80.7 -82.0 -74.1 LAT(DEG.)
263.3 261.5 259.5 257.4 254.8 251.5 246.6 237.5 211.3 137.2 102.4 LONG(E)
12.3 2.1 -8.4 -19.2 -30.1 -41.2 -52.3 -63.2 -74.0 -84.6 -95 FROM LAT.
541.7 413.9 308.9 230.8 182.7 166.5 182.6 229.9 305.9 407.4 530. ALTITUDE
0801 0756 0751 0745 0737 0727 0710 0635 0453 2359 2143 L.T.(HRS.)



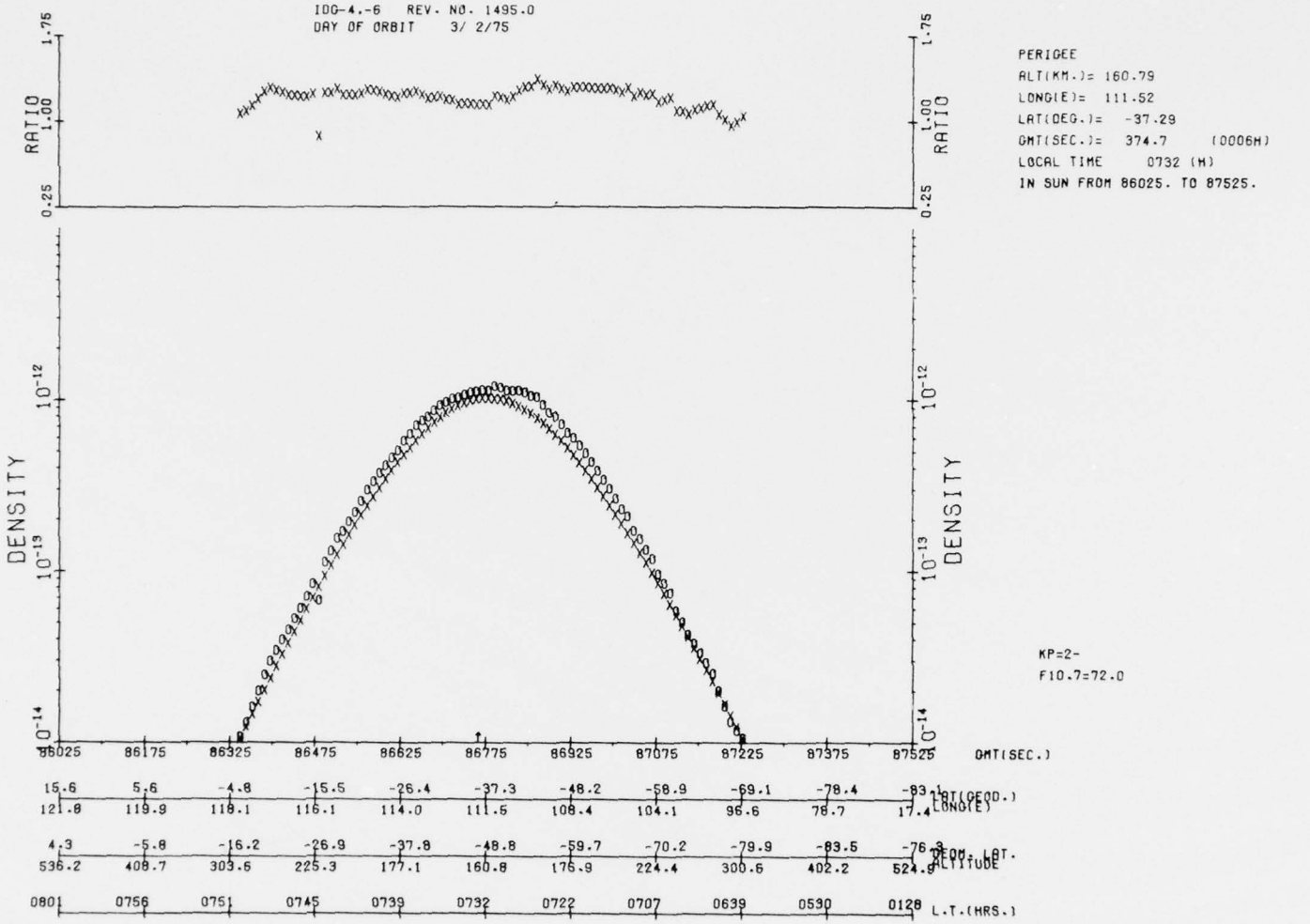
PERIGEE
ALT(KM.)= 165.83
LONG(E)= 329.93
LAT(DEG.)= -48.64
GMT(SEC.)= 34112.5 (0928H)
LOCAL TIME 0728 (H)
IN SUN FROM 33510. TO 34860.

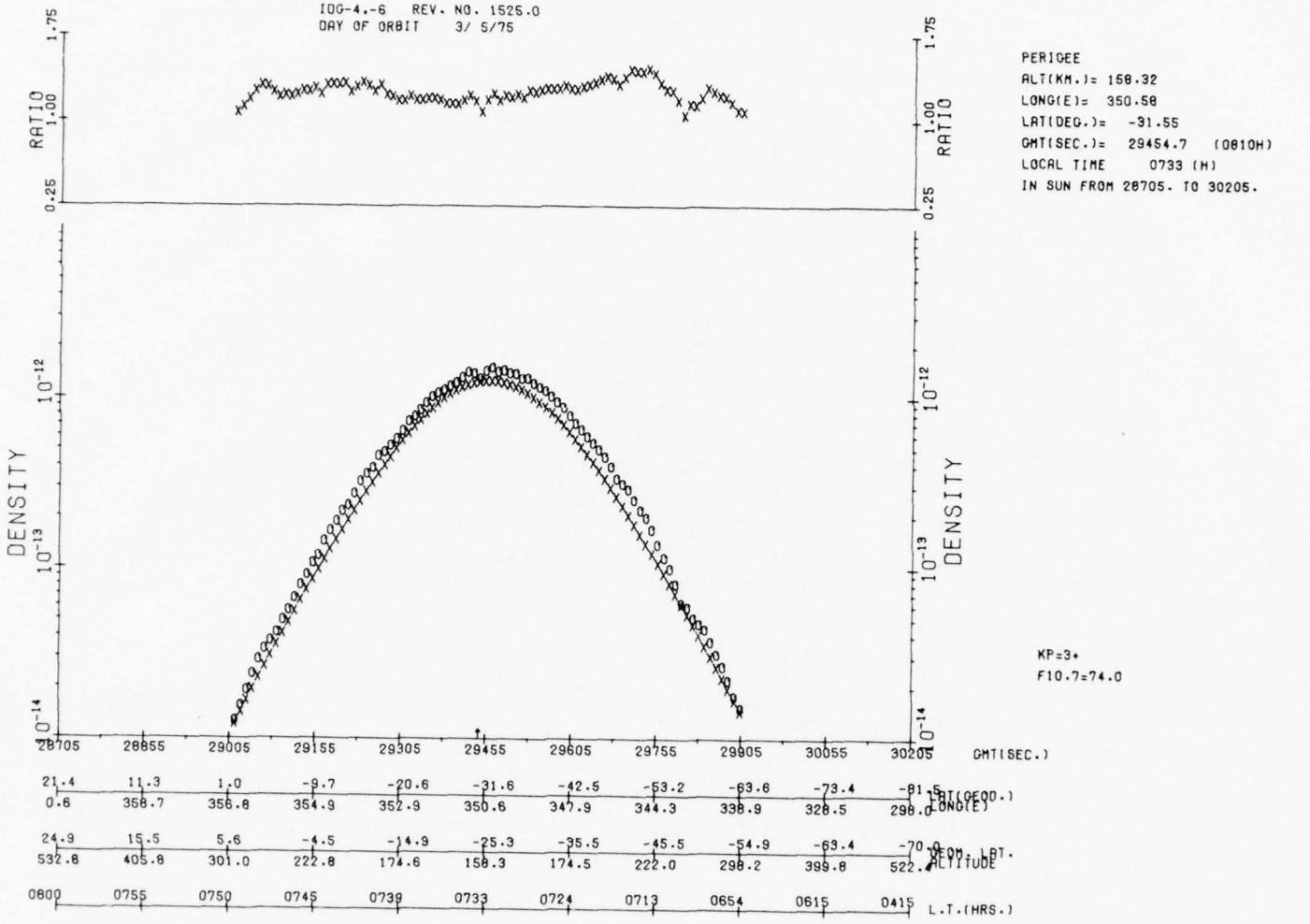
KP=3
F10.7=71.0

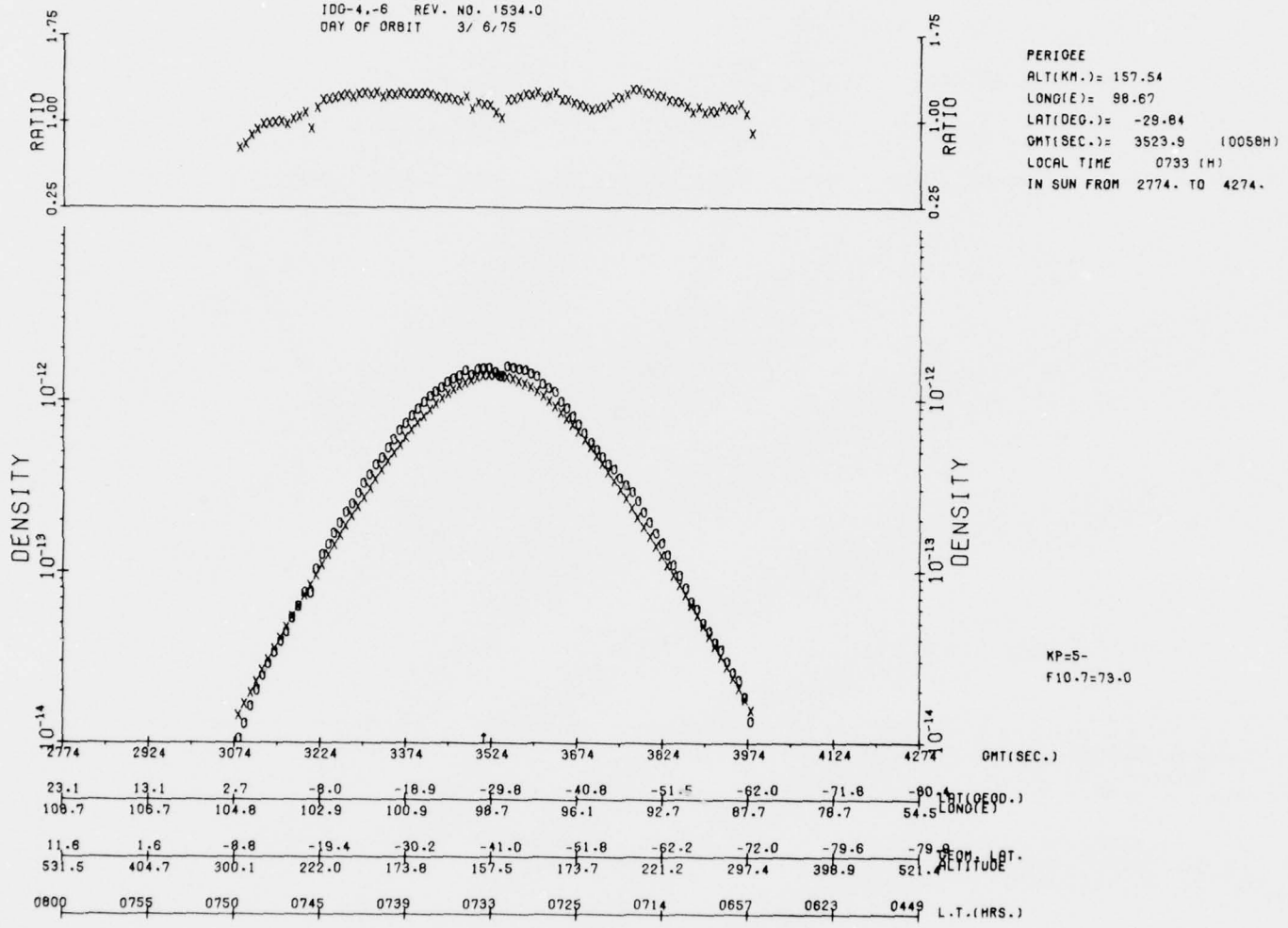


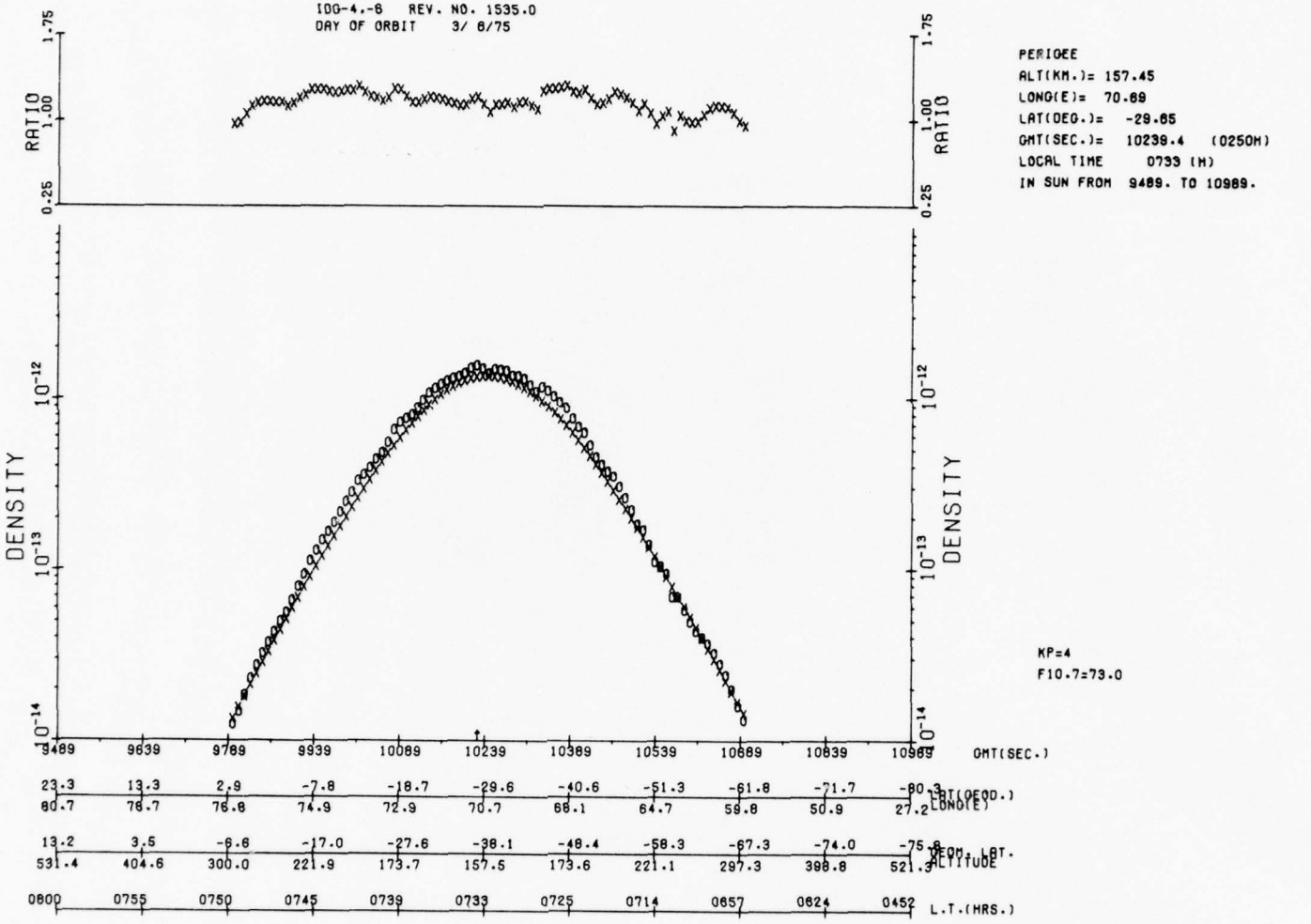
PERIGEE
ALT(KM.)= 165.68
LONG(E)= 273.63
LAT(DEG.)= -48.25
GMT(SEC.)= 47636.7 (1313H)
LOCAL TIME 0728 (H)
IN SUN FROM 47050. TO 48400.

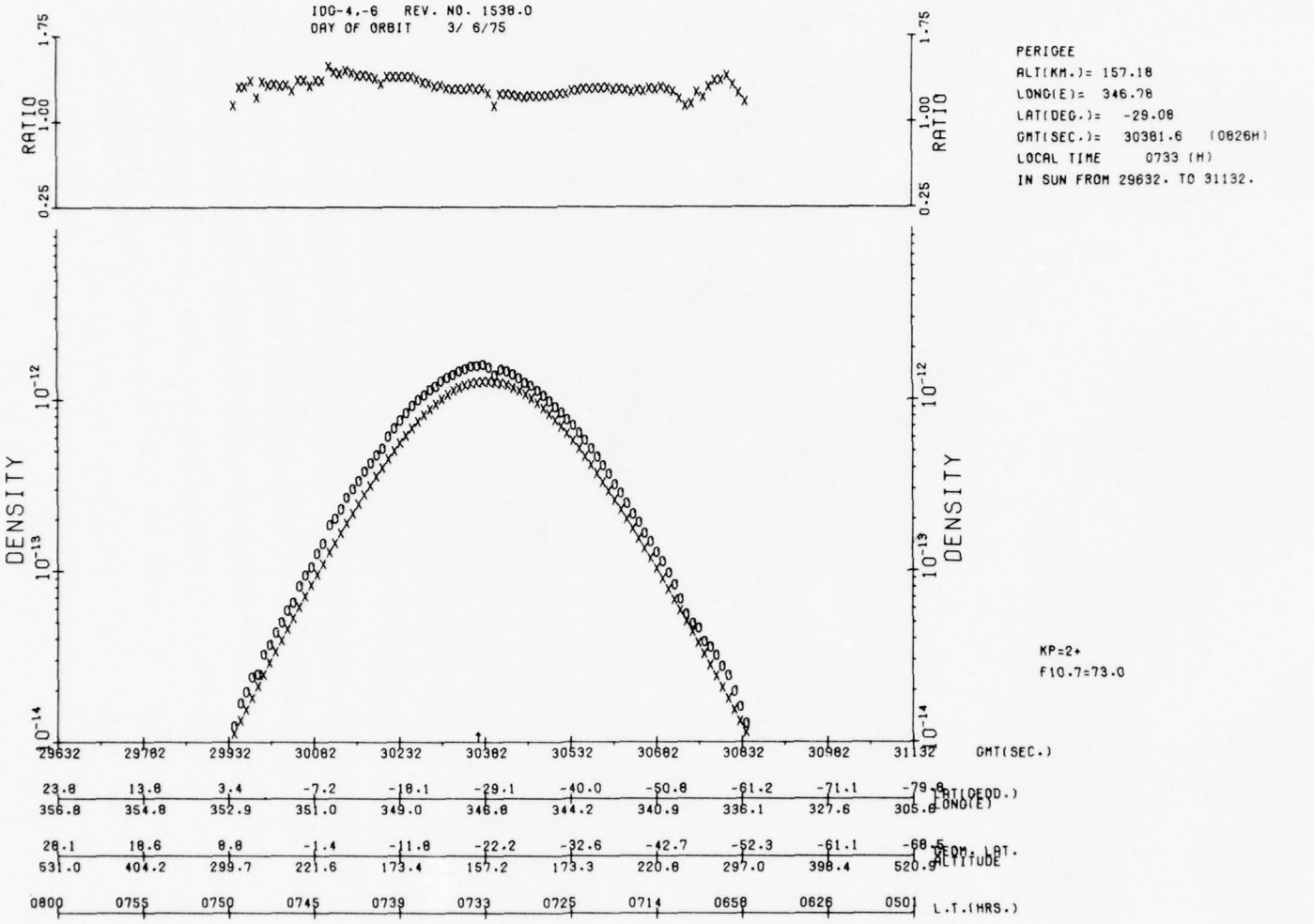
KP=2+
F10.7=71.0

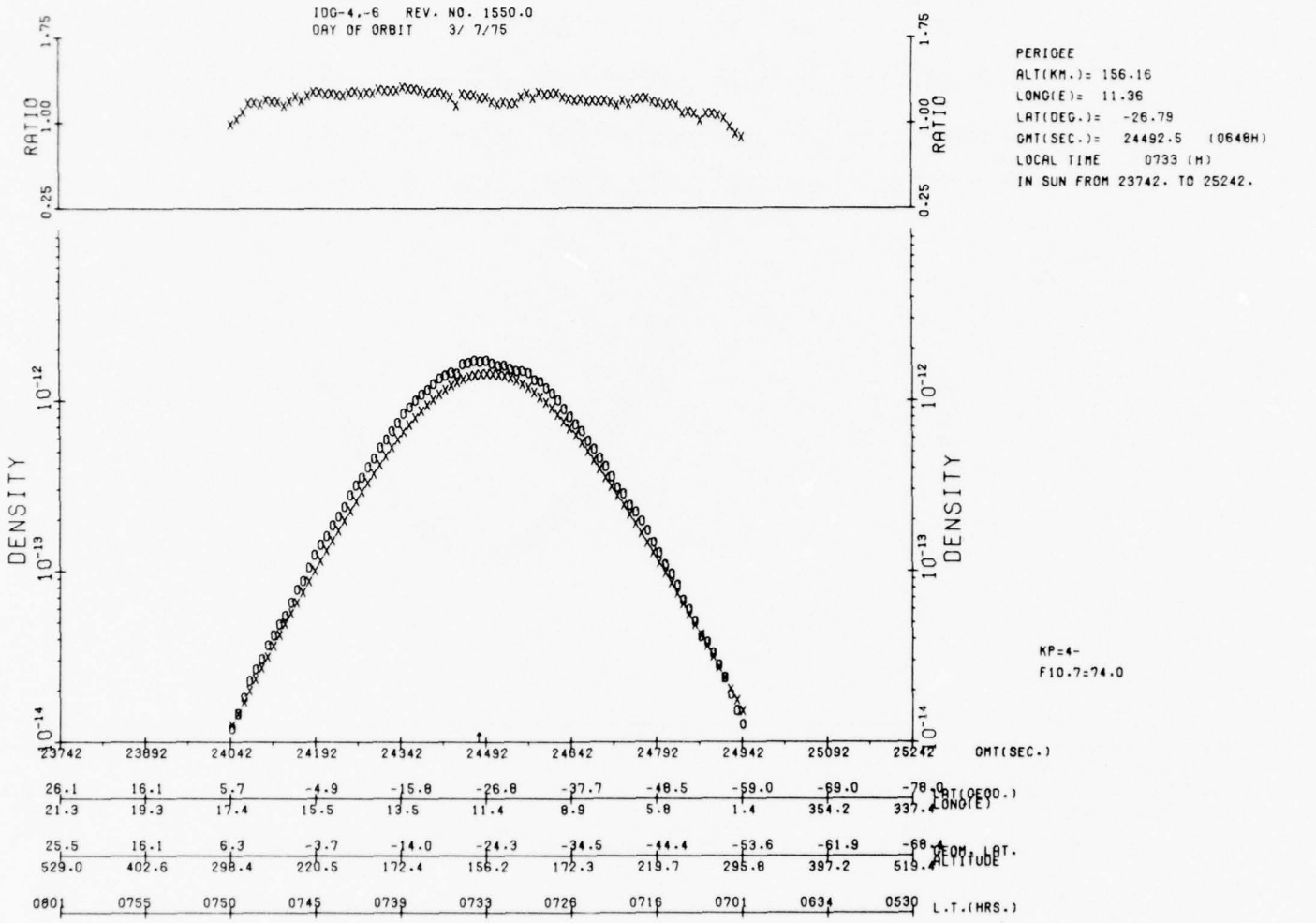

IDG-4.-6 REV. NO. 1495.0
DAY OF ORBIT 3/ 2/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 160.79
LONG(E)= 111.52
LAT(DEG.)= -37.29
GMT(SEC.)= 374.7 (0006M)
LOCAL TIME 0732 (M)
IN SUN FROM 86025. TO 87525.
KP=2-
F10.7=72.0
86025 86175 86325 86475 86625 86775 86925 87075 87225 87375 87525 GMT(SEC.)
15.6 5.6 -4.8 -15.5 -26.4 -37.3 -48.2 -58.9 -69.1 -78.4 -83.1 LAT(GEOD.)
121.8 119.9 118.1 116.1 114.0 111.5 108.4 104.1 96.6 78.7 17.4 LONG(E)
4.3 -5.8 -16.2 -26.9 -37.8 -48.8 -59.7 -70.2 -79.9 -83.5 -76.3 GEOM. LAT.
536.2 408.7 303.6 225.3 177.1 160.8 176.9 224.4 300.6 402.2 524.9 ALTITUDE
0801 0756 0751 0745 0739 0732 0722 0707 0639 0530 0128 L.T.(HRS.)

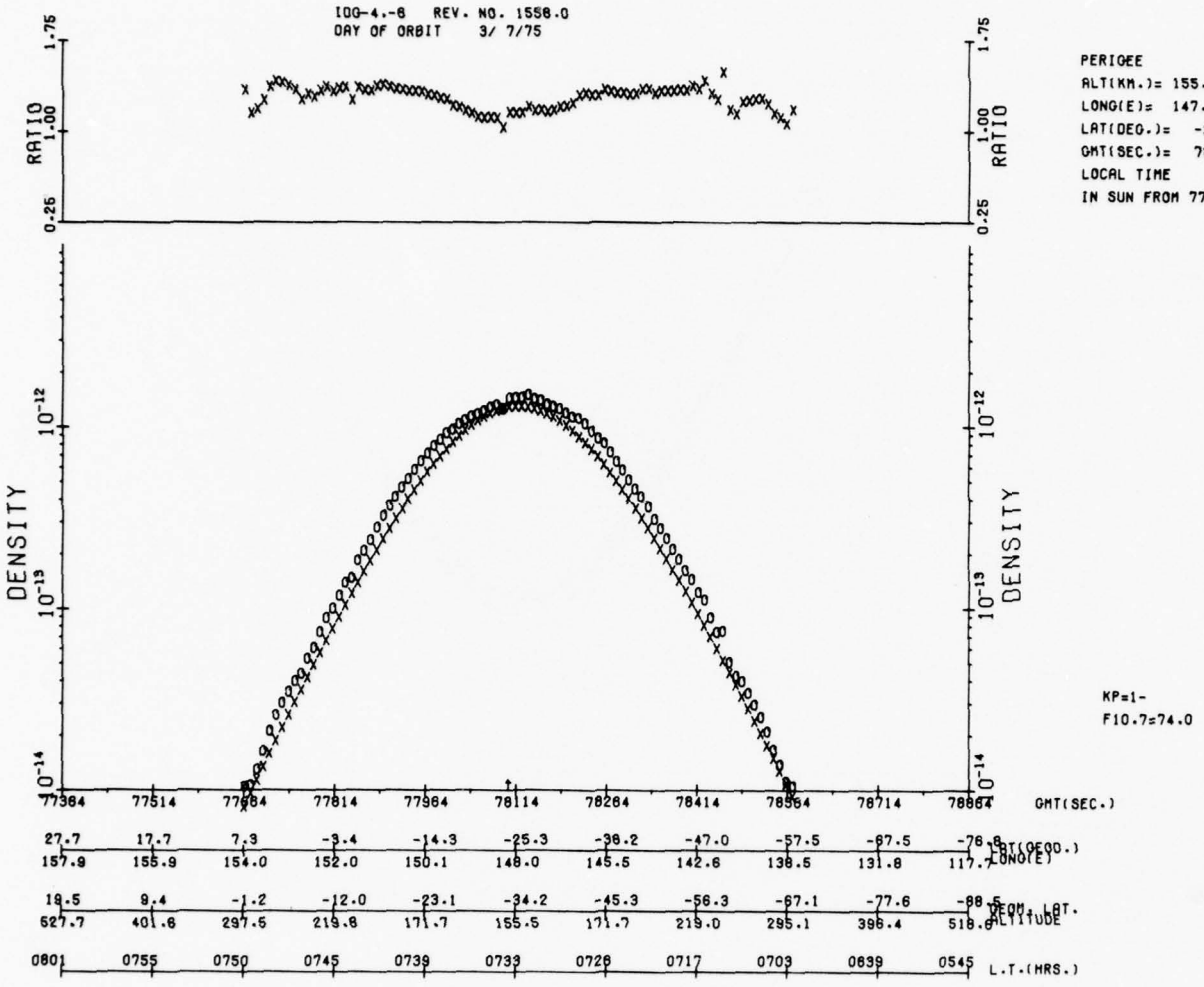

IOG-4.-6 REV. NO. 1525.0
DAY OF ORBIT 3/ 5/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 158.32
LONG(E)= 350.58
LAT(DEG.)= -31.55
GMT(SEC.)= 29454.7 (0810H)
LOCAL TIME 0733 (H)
IN SUN FROM 28705. TO 30205.
KP=3+
F10.7=74.0
28705 28855 29005 29155 29305 29455 29605 29755 29905 30055 30205 GMT(SEC.)
21.4 11.3 1.0 -9.7 -20.6 -31.6 -42.5 -53.2 -63.6 -73.4 -81.5 LAT(GEOD.)
0.6 358.7 356.8 354.9 352.9 350.6 347.9 344.3 338.9 328.5 298.0 LONG(E)
24.9 15.5 5.6 -4.5 -14.9 -25.3 -35.5 -45.5 -54.9 -63.4 -70.0 GEOM. LAT.
532.8 405.8 301.0 222.8 174.6 158.3 174.5 222.0 298.2 399.8 522.4 ALTITUDE
0800 0755 0750 0745 0739 0733 0724 0713 0654 0615 0415 L.T.(HRS.)

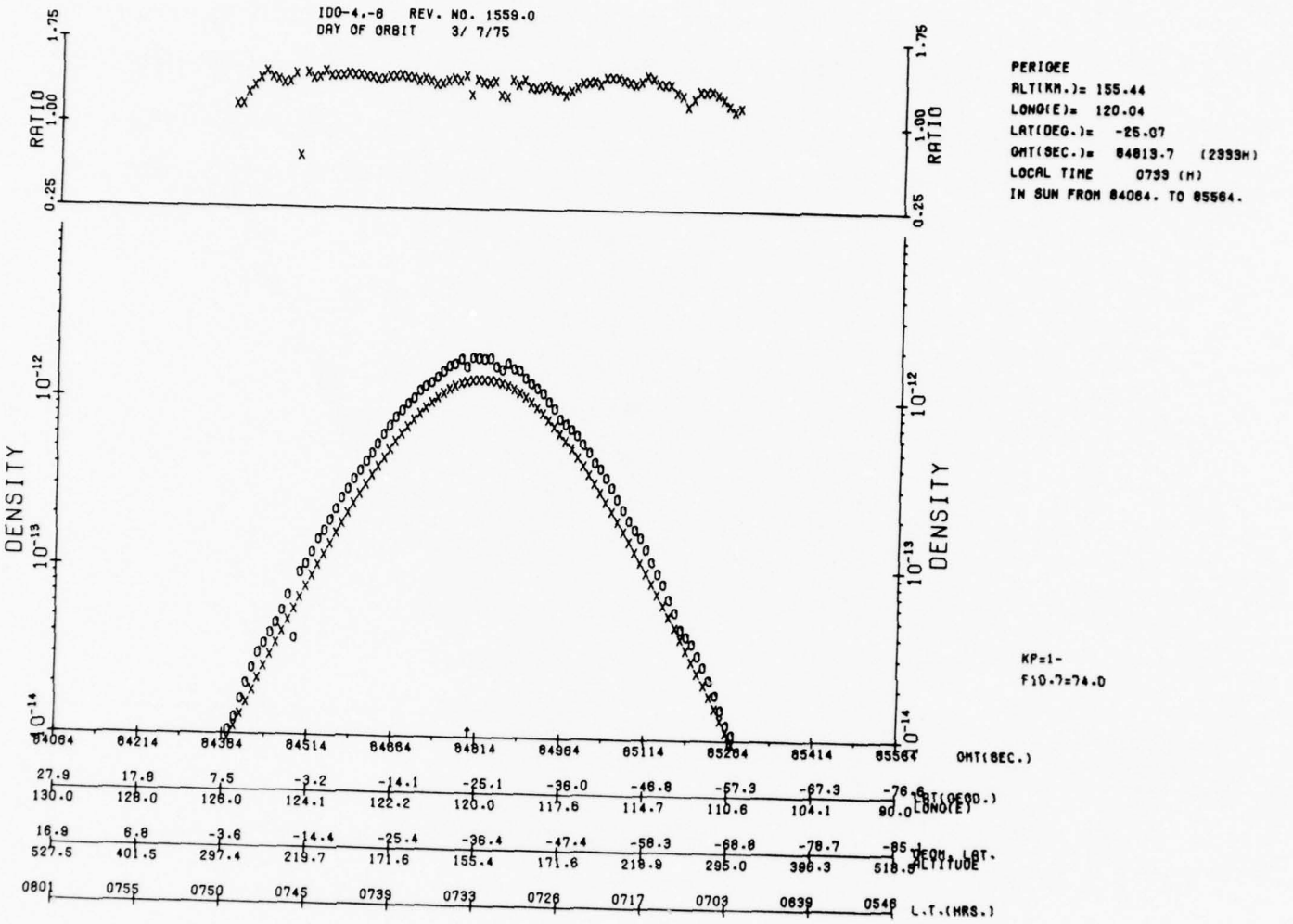

IDG-4,-6 REV. NO. 1534.0
DAY OF ORBIT 3/ 6/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 157.54
LONG(E)= 98.67
LAT(DEG.)= -29.84
GMT(SEC.)= 3523.9 (0058H)
LOCAL TIME 0733 (H)
IN SUN FROM 2774. TO 4274.
KP=5-
F10.7=73.0
2774 2924 3074 3224 3374 3524 3674 3824 3974 4124 4274 GMT(SEC.)
23.1 13.1 2.7 -8.0 -18.9 -29.8 -40.8 -51.5 -62.0 -71.8 -80.1 LAT(DEGD.)
108.7 106.7 104.8 102.9 100.9 98.7 96.1 92.7 87.7 78.7 54.5 LONG(E)
11.6 1.6 -8.8 -19.4 -30.2 -41.0 -51.8 -62.2 -72.0 -79.6 -79.8 GEOM. LAT.
531.5 404.7 300.1 222.0 173.8 157.5 173.7 221.2 297.4 398.9 521.4 ALTITUDE
0800 0755 0750 0745 0739 0733 0725 0714 0657 0623 0449 L.T.(HRS.)

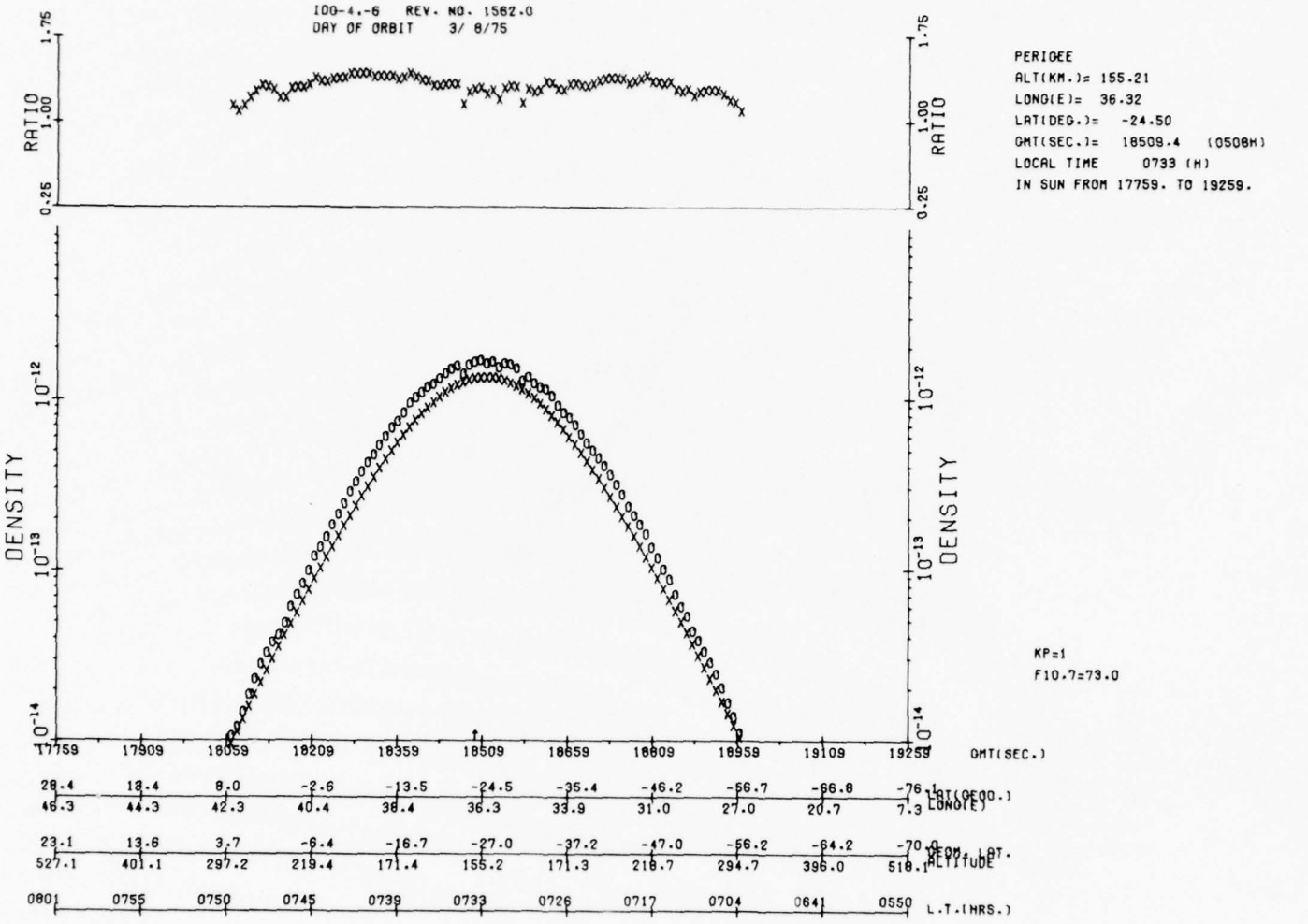

IDG-4,-6 REV. NO. 1535.0
DAY OF ORBIT 3/ 6/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 157.45
LONG(E)= 70.69
LAT(DEG.)= -29.65
GMT(SEC.)= 10238.4 (0250H)
LOCAL TIME 0733 (H)
IN SUN FROM 9489. TO 10989.
KP=4
F10.7=73.0
9489 9639 9789 9939 10089 10239 10389 10539 10689 10839 10989 GMT(SEC.)
23.3 13.3 2.9 -7.8 -18.7 -29.6 -40.6 -51.3 -61.8 -71.7 -80.3 LAT(DEGD.)
80.7 78.7 76.8 74.9 72.9 70.7 68.1 64.7 58.8 50.9 27.2 LONG(E)
13.2 3.5 -6.6 -17.0 -27.6 -38.1 -48.4 -58.3 -67.3 -74.0 -75.8 DEGD. LAT.
531.4 404.6 300.0 221.9 173.7 157.5 173.6 221.1 297.3 398.8 521.3 ALTITUDE
0800 0755 0750 0745 0739 0733 0725 0714 0657 0624 0452 L.T.(HRS.)

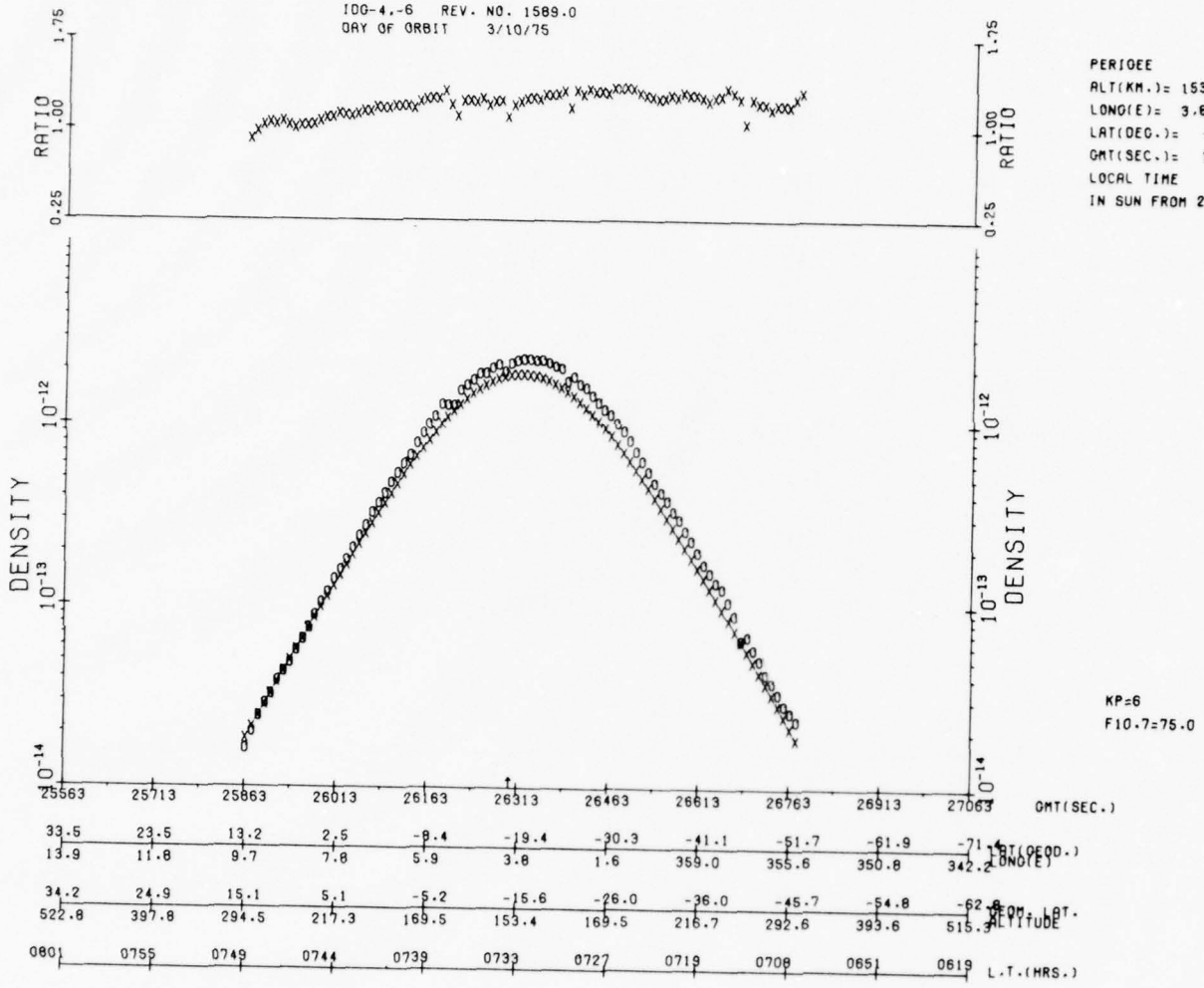

IDG-4,-6 REV. NO. 1538.0
DAY OF ORBIT 3/ 6/75
RATIO
1.75
1.00
0.25
PERIGEE
ALT(KM.)= 157.18
LONG(E)= 346.78
LAT(DEG.)= -29.08
GMT(SEC.)= 30381.6 (0826H)
LOCAL TIME 0733 (H)
IN SUN FROM 29632. TO 31132.
DENSITY
10^{-12}
10^{-13}
10^{-14}
KP=2+
F10.7=73.0
29632 29782 29932 30082 30232 30382 30532 30682 30832 30982 31132 GMT(SEC.)
23.8 13.8 3.4 -7.2 -18.1 -29.1 -40.0 -50.8 -61.2 -71.1 -79.8 LAT(DEGD.)
356.8 354.8 352.9 351.0 349.0 346.8 344.2 340.9 336.1 327.6 305.8 LONG(E)
28.1 18.6 8.8 -1.4 -11.8 -22.2 -32.6 -42.7 -52.3 -61.1 -68.5 GEOM. LAT.
531.0 404.2 299.7 221.6 173.4 157.2 173.3 220.8 297.0 398.4 520.9 ALTITUDE
0800 0755 0750 0745 0739 0733 0725 0714 0658 0626 0501 L.T.(HRS.)


IDG-4,-6 REV. NO. 1550.0
DAY OF ORBIT 3/ 7/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 156.16
LONG(E)= 11.36
LAT(DEG.)= -26.79
GMT(SEC.)= 24492.5 (0648H)
LOCAL TIME 0733 (H)
IN SUN FROM 23742. TO 25242.
KP=4-
F10.7=74.0
23742 23892 24042 24192 24342 24492 24642 24792 24942 25092 25242 GMT(SEC.)
26.1 16.1 5.7 -4.9 -15.8 -26.8 -37.7 -48.5 -59.0 -69.0 -78.0 LAT(DEGD.)
21.3 19.3 17.4 15.5 13.5 11.4 8.9 5.8 1.4 354.2 337.4 LONG(E)
25.5 16.1 6.3 -3.7 -14.0 -24.3 -34.5 -44.4 -53.6 -61.9 -68.4 GEOM. LAT.
529.0 402.6 298.4 220.5 172.4 156.2 172.3 219.7 295.8 397.2 519.4 ALTITUDE
0801 0755 0750 0745 0739 0733 0726 0716 0701 0634 0530 L.T.(HRS.)


IOG-4.-6 REV. NO. 1558.0
DAY OF ORBIT 3/ 7/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 155.52
LONG(E)= 147.96
LAT(DEG.)= -25.26
GMT(SEC.)= 78113.9 (2141H)
LOCAL TIME 0739 (H)
IN SUN FROM 77364. TO 78864.
KP=1-
F10.7=74.0
77364 77514 77664 77814 77964 78114 78264 78414 78564 78714 78864 GMT(SEC.)
27.7 17.7 7.3 -3.4 -14.3 -25.3 -38.2 -47.0 -57.5 -67.5 -78.8 LAT(DEGD.)
157.9 155.9 154.0 152.0 150.1 148.0 145.5 142.6 138.5 131.8 117.7 LONG(E)
18.5 9.4 -1.2 -12.0 -23.1 -34.2 -45.3 -56.3 -67.1 -77.6 -88.5 DEGM. LAT.
527.7 401.8 297.5 219.8 171.7 155.5 171.7 219.0 295.1 398.4 518.6 ALTITUDE
0801 0755 0750 0745 0739 0733 0728 0717 0703 0639 0545 L.T.(HRS.)

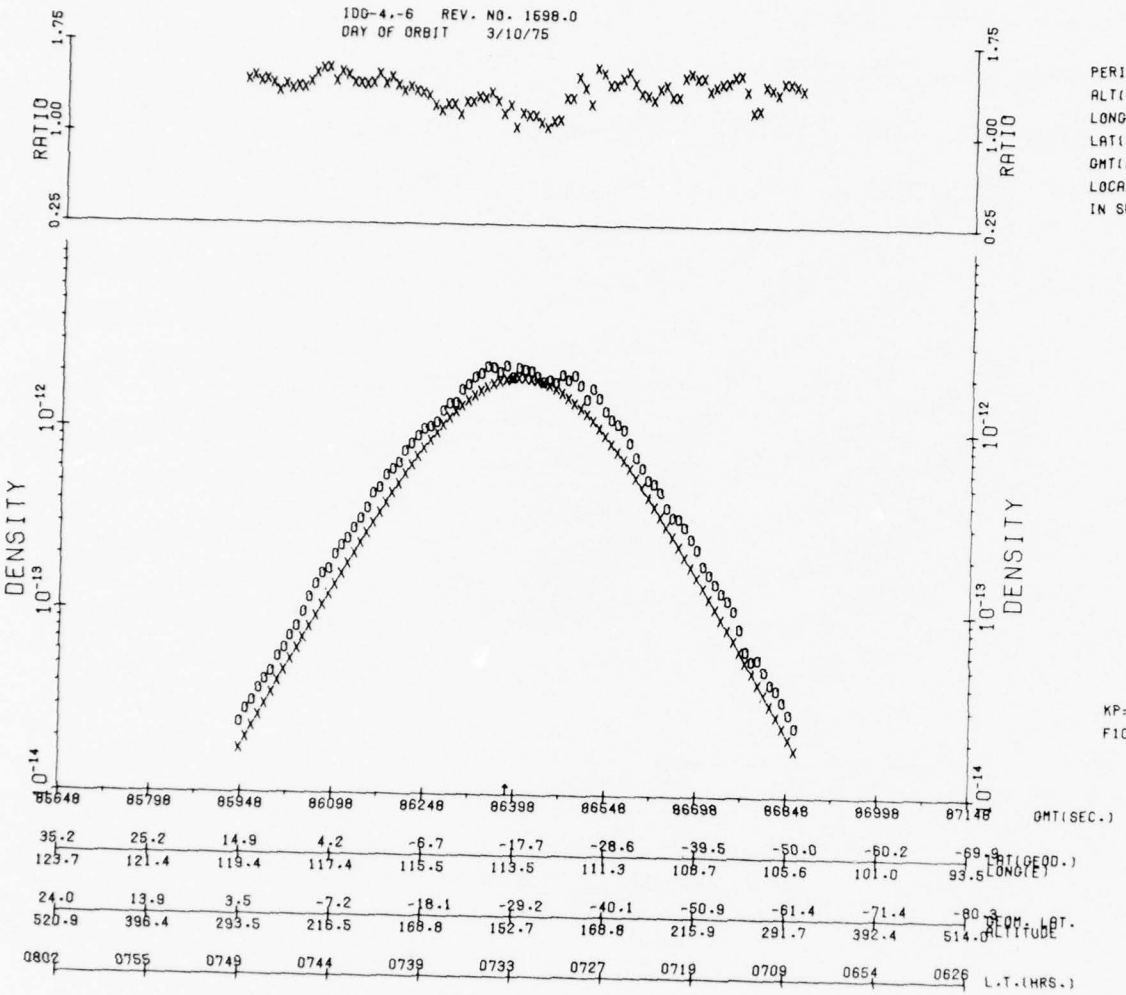

IDO-4.-8 REV. NO. 1559.0
DAY OF ORBIT 3/ 7/75
RATIO
1.75
1.00
0.25
PERIGEE
ALT(KM.)= 155.44
LONG(E)= 120.04
LAT(DEG.)= -25.07
GMT(SEC.)= 84813.7 (2333H)
LOCAL TIME 0733 (H)
IN SUN FROM 84064. TO 85564.
DENSITY
10^-12
10^-13
10^-14
KP=1-
F10.7=74.0
84064 84214 84364 84514 84664 84814 84964 85114 85264 85414 85564 GMT(SEC.)
27.9 17.8 7.5 -3.2 -14.1 -25.1 -36.0 -46.8 -57.3 -67.3 -76.6 LAT(DEGD.)
130.0 128.0 126.0 124.1 122.2 120.0 117.6 114.7 110.6 104.1 90.0 LONG(E)
16.9 6.8 -3.6 -14.4 -25.4 -36.4 -47.4 -58.3 -68.8 -78.7 -85.1 GEOM. LAT.
527.5 401.5 297.4 219.7 171.6 155.4 171.6 218.9 295.0 398.3 518.5 ALTITUDE
0801 0755 0750 0745 0739 0733 0728 0717 0703 0639 0546 L.T.(HRS.)

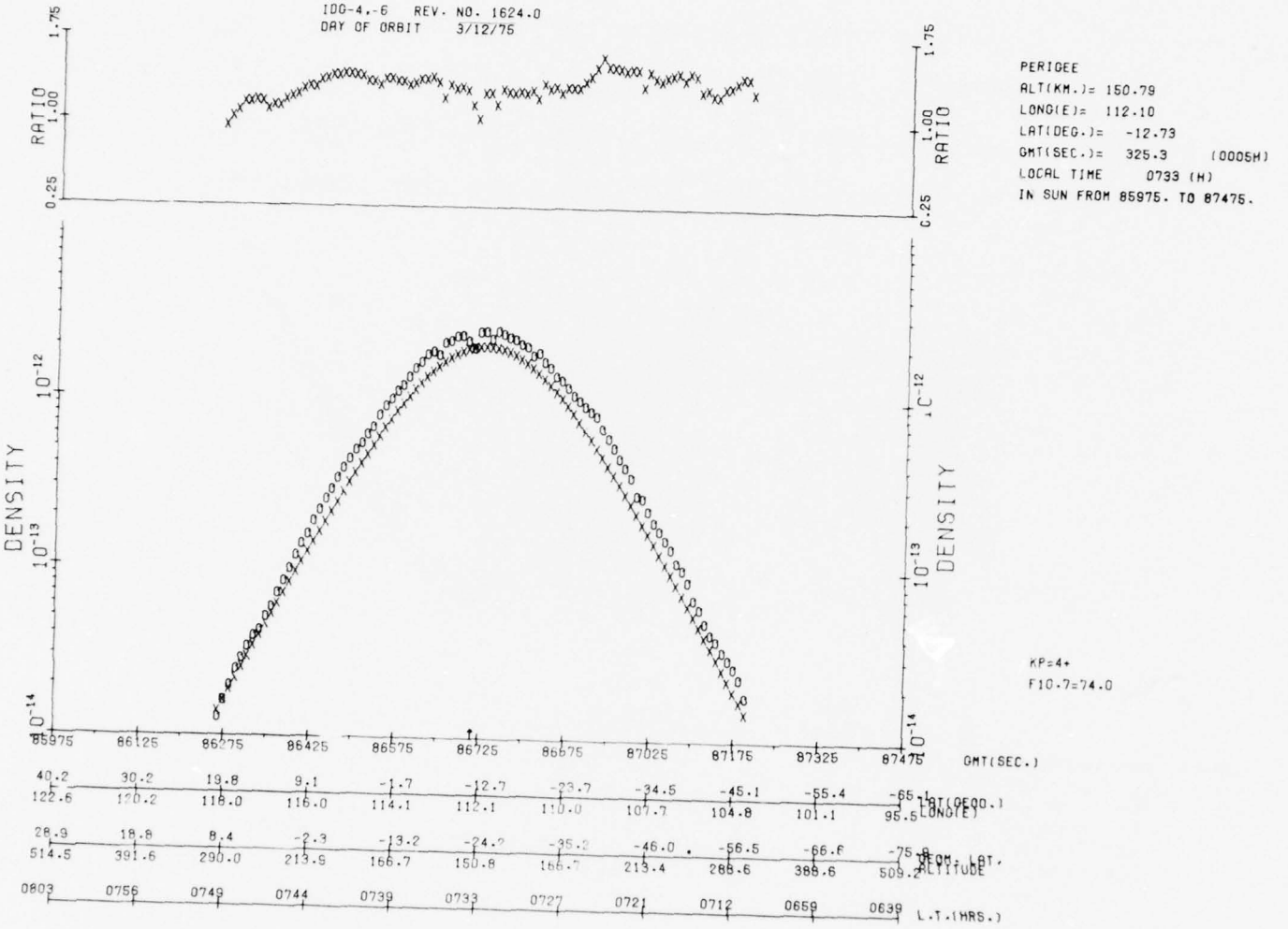

IDO-4.-6 REV. NO. 1562.0
DAY OF ORBIT 3/ 8/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 155.21
LONG(E)= 36.32
LAT(DEG.)= -24.50
GMT(SEC.)= 18509.4 (0508H)
LOCAL TIME 0733 (H)
IN SUN FROM 17759. TO 19259.
KP=1
F10.7=73.0
17759 17909 18059 18209 18359 18509 18659 18809 18959 19109 19259 GMT(SEC.)
28.4 18.4 8.0 -2.6 -13.5 -24.5 -35.4 -46.2 -56.7 -66.8 -76.1 LAT(DEGD.)
46.3 44.3 42.3 40.4 38.4 36.3 33.9 31.0 27.0 20.7 7.3 LONG(E)
23.1 13.6 3.7 -6.4 -16.7 -27.0 -37.2 -47.0 -56.2 -64.2 -70.0 DEGD. LAT.
527.1 401.1 297.2 219.4 171.4 155.2 171.3 218.7 294.7 396.0 518.1 ALTITUDE
0801 0755 0750 0745 0739 0733 0726 0717 0704 0641 0550 L.T.(HRS.)

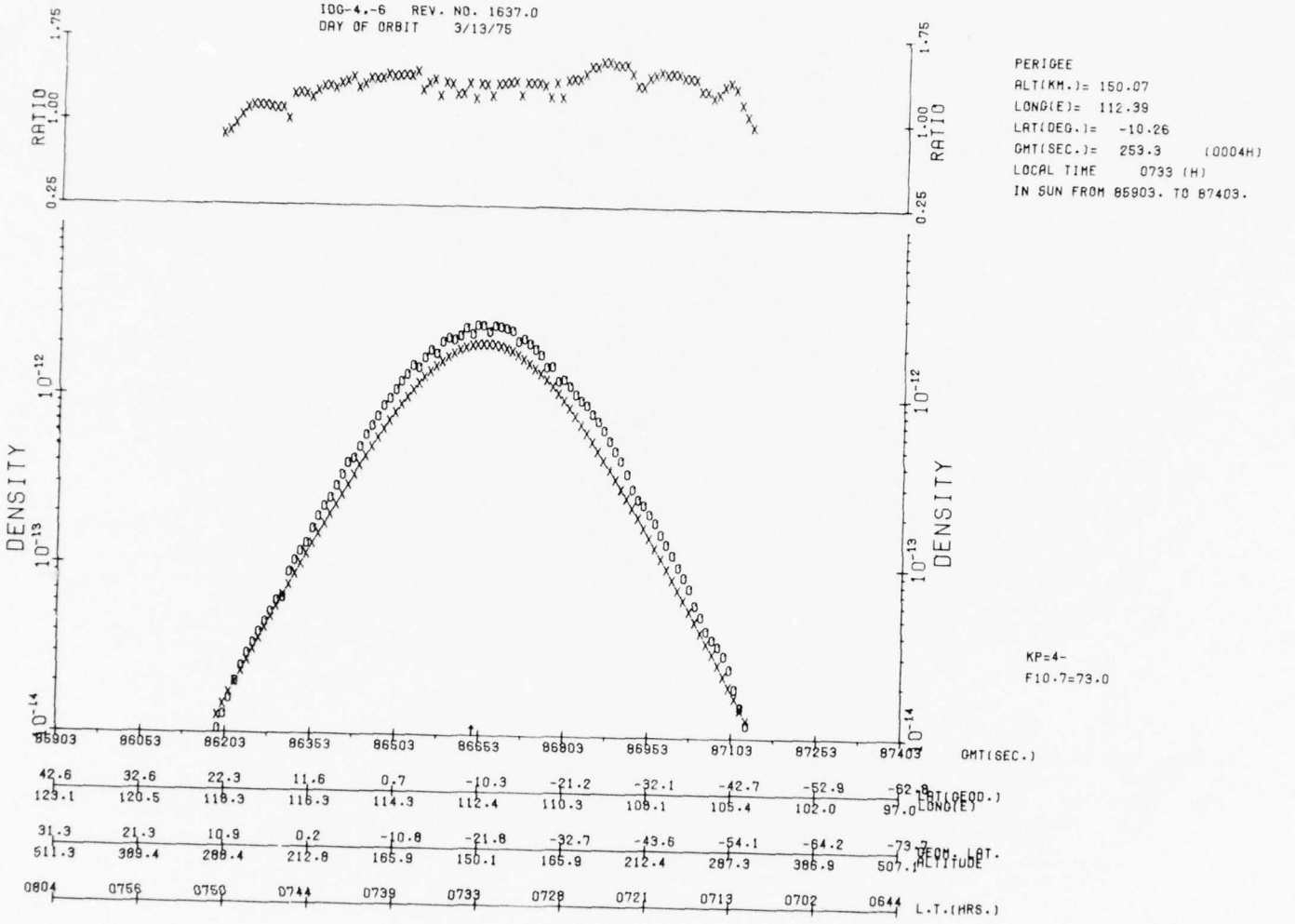


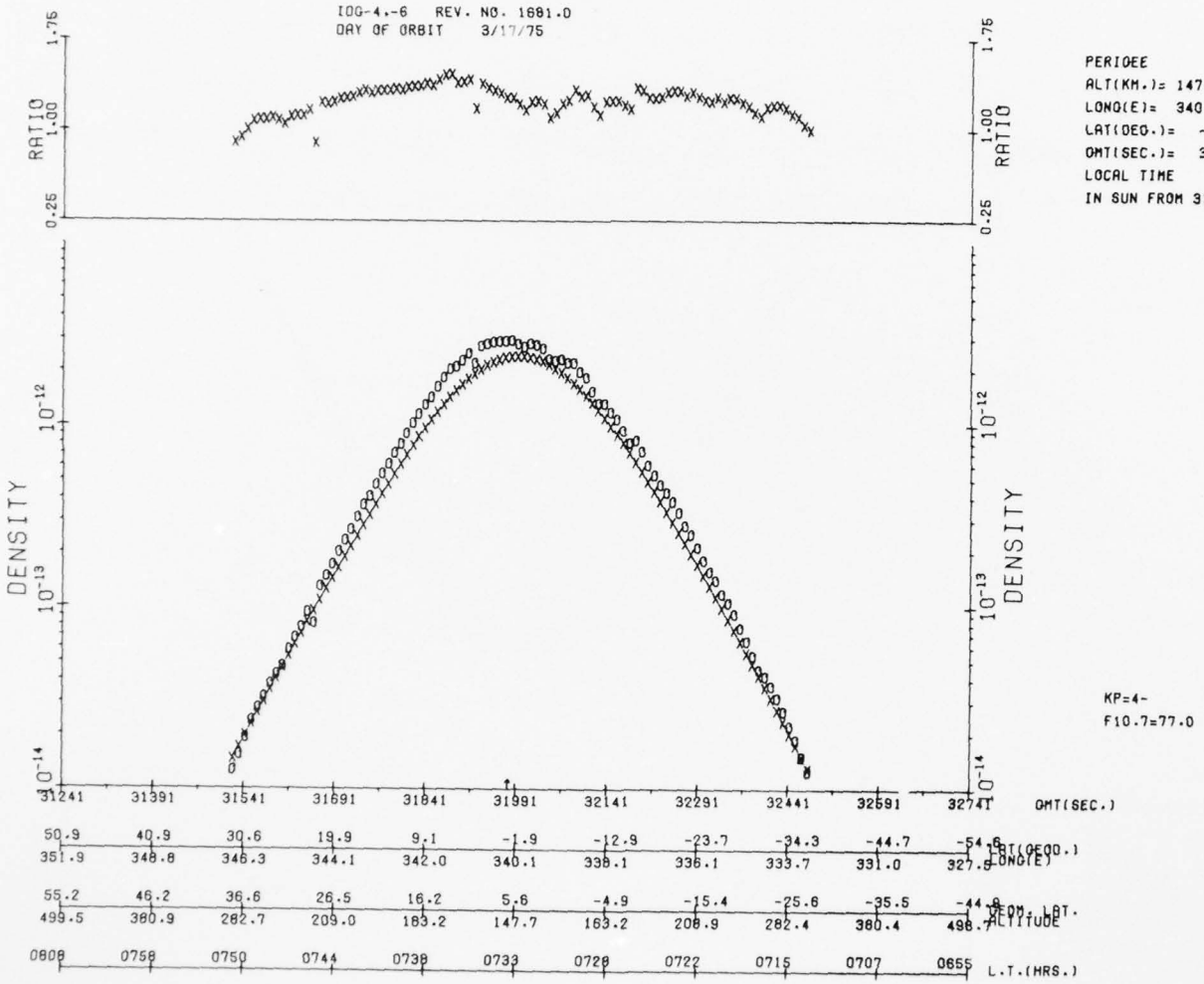
PERIGEE
ALT(KM.)= 153.36
LONG(E)= 3.83
LAT(DEG.)= -19.37
GMT(SEC.)= 26312.8 (0718H)
LOCAL TIME 0733 (H)
IN SUN FROM 25563. TO 27063.

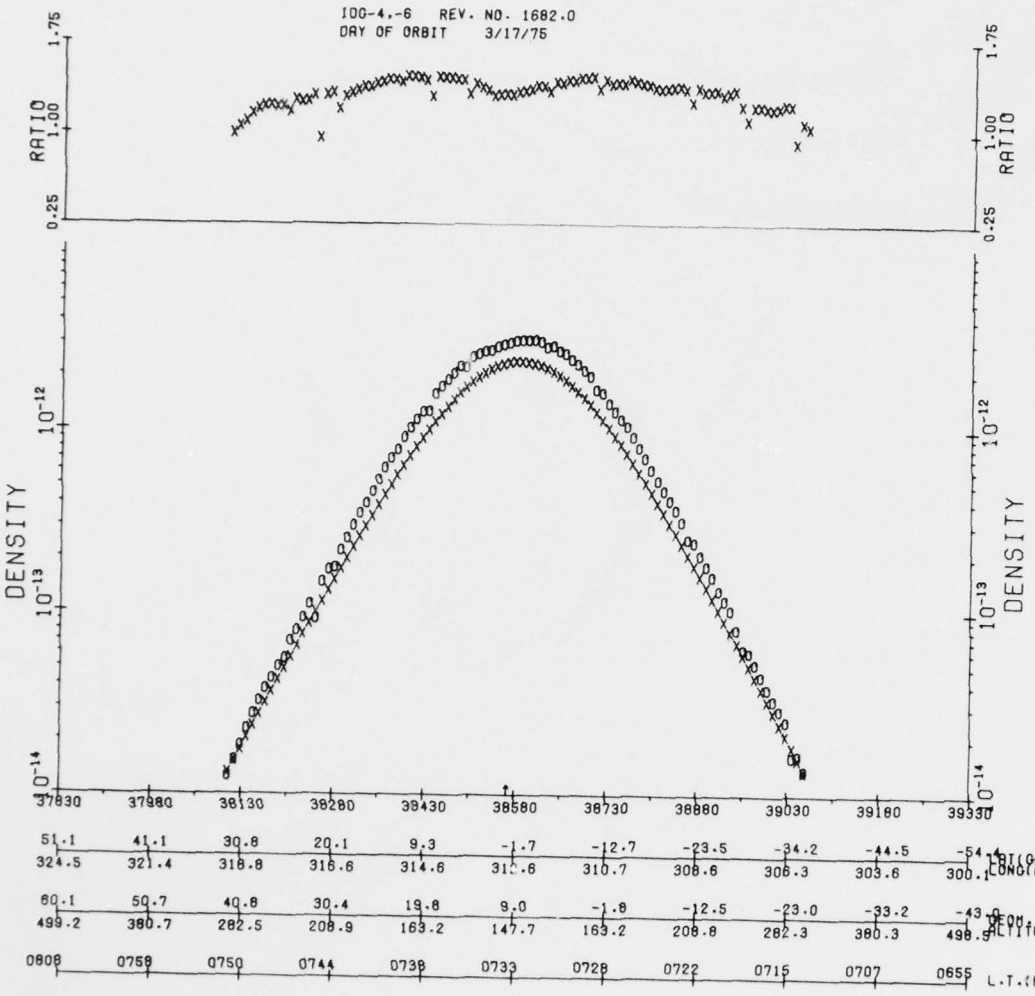
KP=6
F10.7=75.0


IDG-4.-6 REV. NO. 1698.0
DAY OF ORBIT 3/10/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 152.74
LONG(E)= 113.47
LAT(DEG.)= -17.67
GMT(SEC.)= 86398.1 (2359M)
LOCAL TIME 0733 (M)
IN SUN FROM 85648. TO 87148.
KP=6-
F10.7=75.0
85648 85798 85948 86098 86248 86398 86548 86698 86848 86998 87148 GMT(SEC.)
35.2 25.2 14.9 4.2 -6.7 -17.7 -28.6 -39.5 -50.0 -60.2 -69.9 LAT(GEOD.)
123.7 121.4 119.4 117.4 115.5 113.5 111.3 108.7 105.6 101.0 93.5 LONG(E)
24.0 13.9 3.5 -7.2 -18.1 -29.2 -40.1 -50.9 -61.4 -71.4 -80.3 GEOM. LAT.
520.9 396.4 293.5 216.5 168.8 152.7 168.8 215.9 291.7 392.4 514.0 ALTITUDE
0802 0755 0749 0744 0739 0733 0727 0719 0709 0654 0626 L.T.(HRS.)


IDO-4.-6 REV. NO. 1624.0
DAY OF ORBIT 3/12/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 150.79
LONG(E)= 112.10
LAT(DEG.)= -12.73
GMT(SEC.)= 325.3 (0005H)
LOCAL TIME 0733 (H)
IN SUN FROM 85975. TO 87475.
KP=4+
F10.7=74.0
85975 86125 86275 86425 86575 86725 86875 87025 87175 87325 87475 GMT(SEC.)
40.2 30.2 19.8 9.1 -1.7 -12.7 -23.7 -34.5 -45.1 -55.4 -65.1 LAT(DEGD.)
122.6 120.2 118.0 116.0 114.1 112.1 110.0 107.7 104.8 101.1 95.5 LONG(E)
28.9 18.8 8.4 -2.3 -13.2 -24.2 -35.2 -46.0 -56.5 -66.6 -75.8 GEOM. LAT.
514.5 391.6 290.0 213.9 166.7 150.8 156.7 213.4 288.6 388.6 509.2 ALTITUDE
0803 0756 0749 0744 0739 0733 0727 0721 0712 0659 0639 L.T.(HRS.)

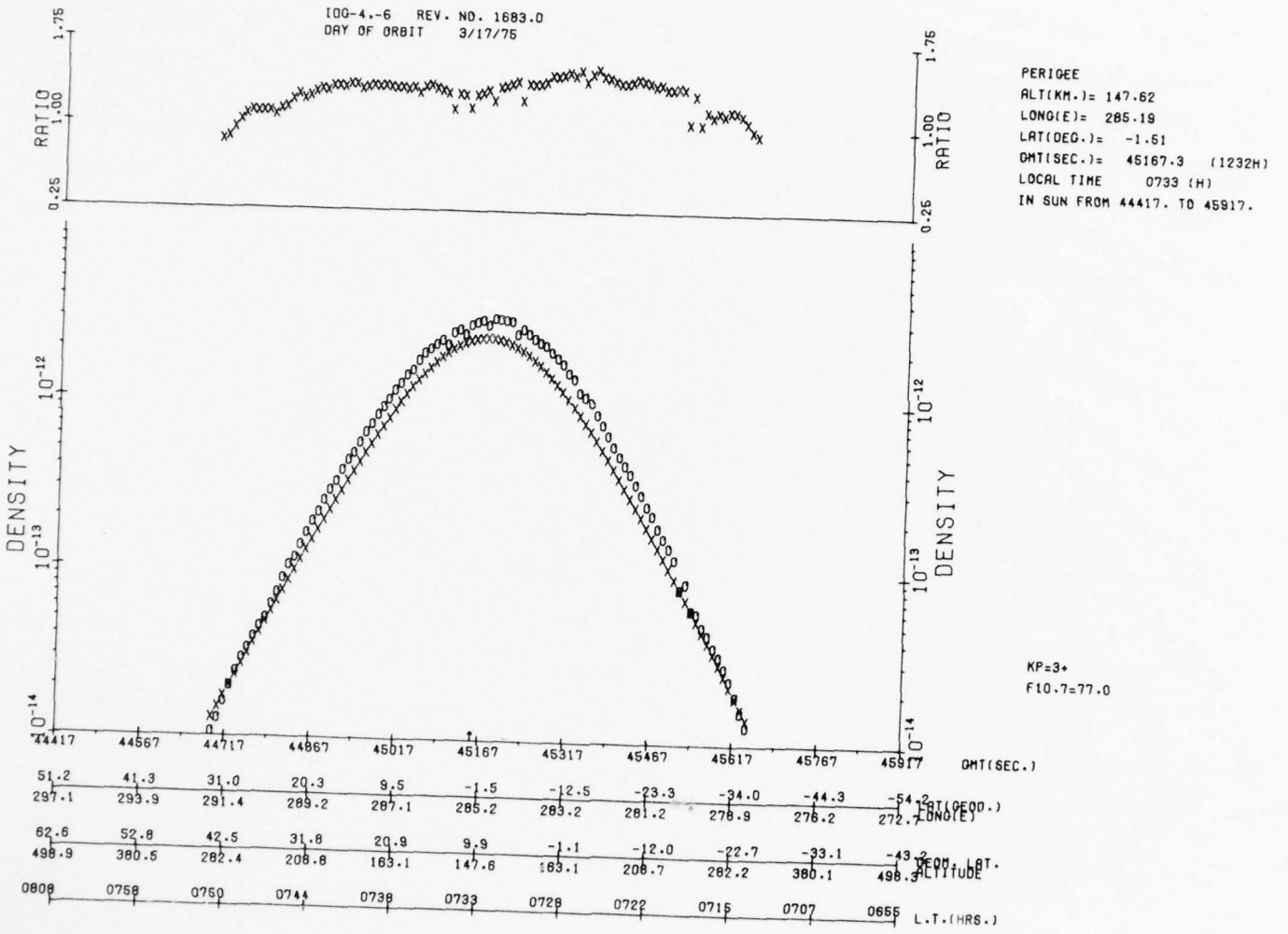

IDG-4.-6 REV. NO. 1637.0
DAY OF ORBIT 3/13/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 150.07
LONG(E)= 112.39
LAT(DEG.)= -10.26
GMT(SEC.)= 253.3 (0004H)
LOCAL TIME 0733 (H)
IN SUN FROM 85903. TO 87403.
KP=4-
F10.7=73.0
86903 86053 86203 86353 86503 86653 86803 86953 87103 87253 87403 GMT(SEC.)
42.6 32.6 22.3 11.6 0.7 -10.3 -21.2 -32.1 -42.7 -52.9 -62.8 LAT(GEOD.)
123.1 120.5 118.3 116.3 114.3 112.4 110.3 108.1 105.4 102.0 97.0 LONG(E)
31.3 21.3 10.9 0.2 -10.8 -21.8 -32.7 -43.6 -54.1 -64.2 -73.7 GEOM. LAT.
511.3 309.4 288.4 212.8 165.9 150.1 165.9 212.4 287.3 386.9 507.1 ALTITUDE
0804 0756 0750 0744 0739 0733 0728 0721 0713 0702 0644 L.T.(HRS.)


IOG-4.-6 REV. NO. 1681.0
DAY OF ORBIT 3/17/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 147.73
LONG(E)= 340.10
LAT(DEG.)= -1.89
GMT(SEC.)= 31991.2 (0853H)
LOCAL TIME 0733 (H)
IN SUN FROM 31241. TO 32741.
KP=4-
F10.7=77.0
31241 31391 31541 31691 31841 31991 32141 32291 32441 32591 32741 GMT(SEC.)
50.9 40.9 30.6 19.9 9.1 -1.9 -12.9 -23.7 -34.3 -44.7 -54.6 LAT(DEGD.)
351.9 348.8 346.3 344.1 342.0 340.1 338.1 336.1 333.7 331.0 327.8 LONG(E)
55.2 46.2 36.6 26.5 16.2 5.6 -4.9 -15.4 -25.6 -35.5 -44.8 GEOM. LAT.
499.5 380.9 282.7 209.0 183.2 147.7 163.2 208.9 282.4 380.4 498.7 ALTITUDE
0808 0758 0750 0744 0738 0733 0728 0722 0715 0707 0655 L.T.(HRS.)



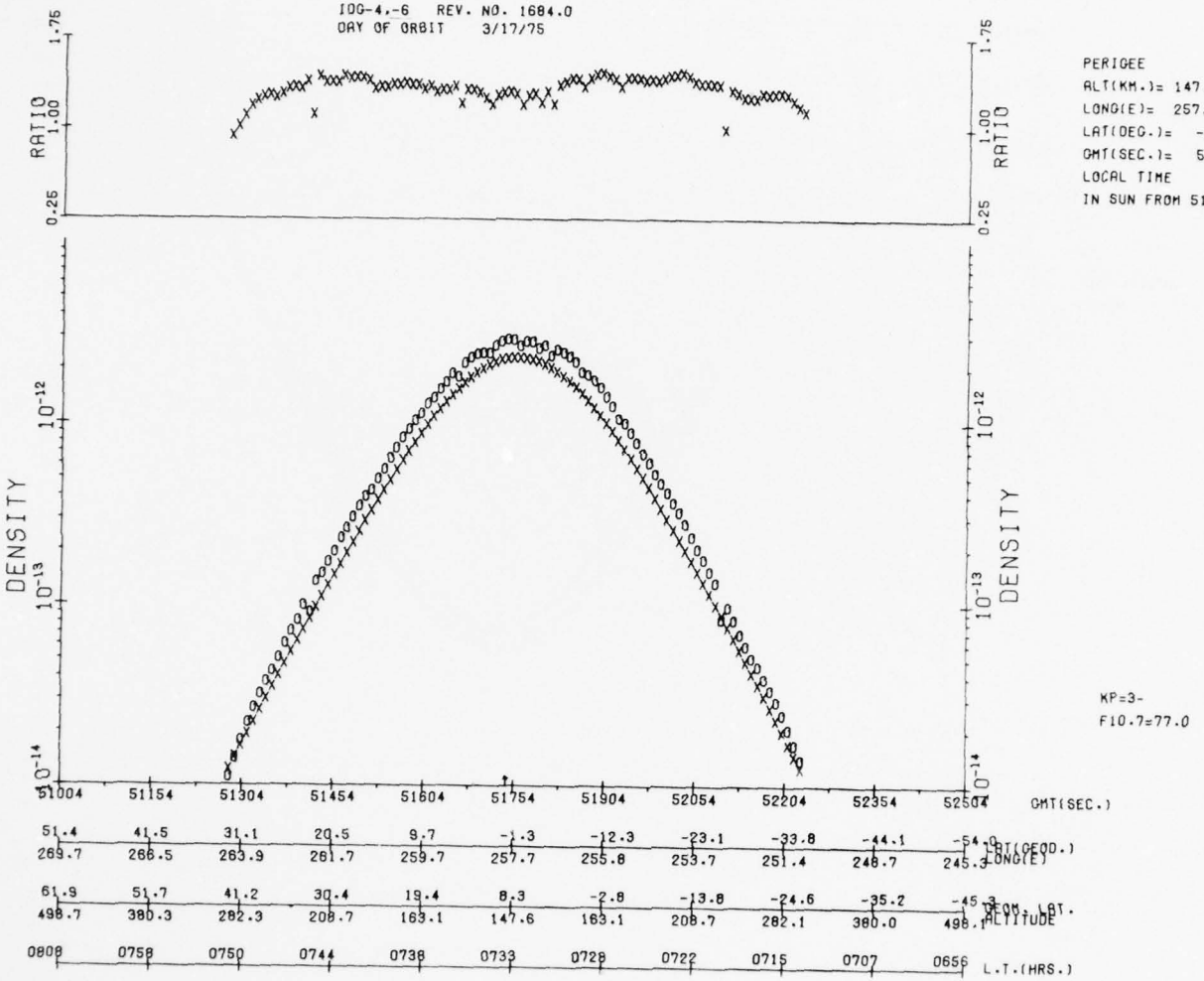
PERIGEE
ALT(KM.)= 147.67
LONG(E)= 312.64
LAT(DEG.)= -1.70
GMT(SEC.)= 38579.8 (1042H)
LOCAL TIME 0733 (H)
IN SUN FROM 37830. TO 39330.

KP=3+
F10.7=77.0



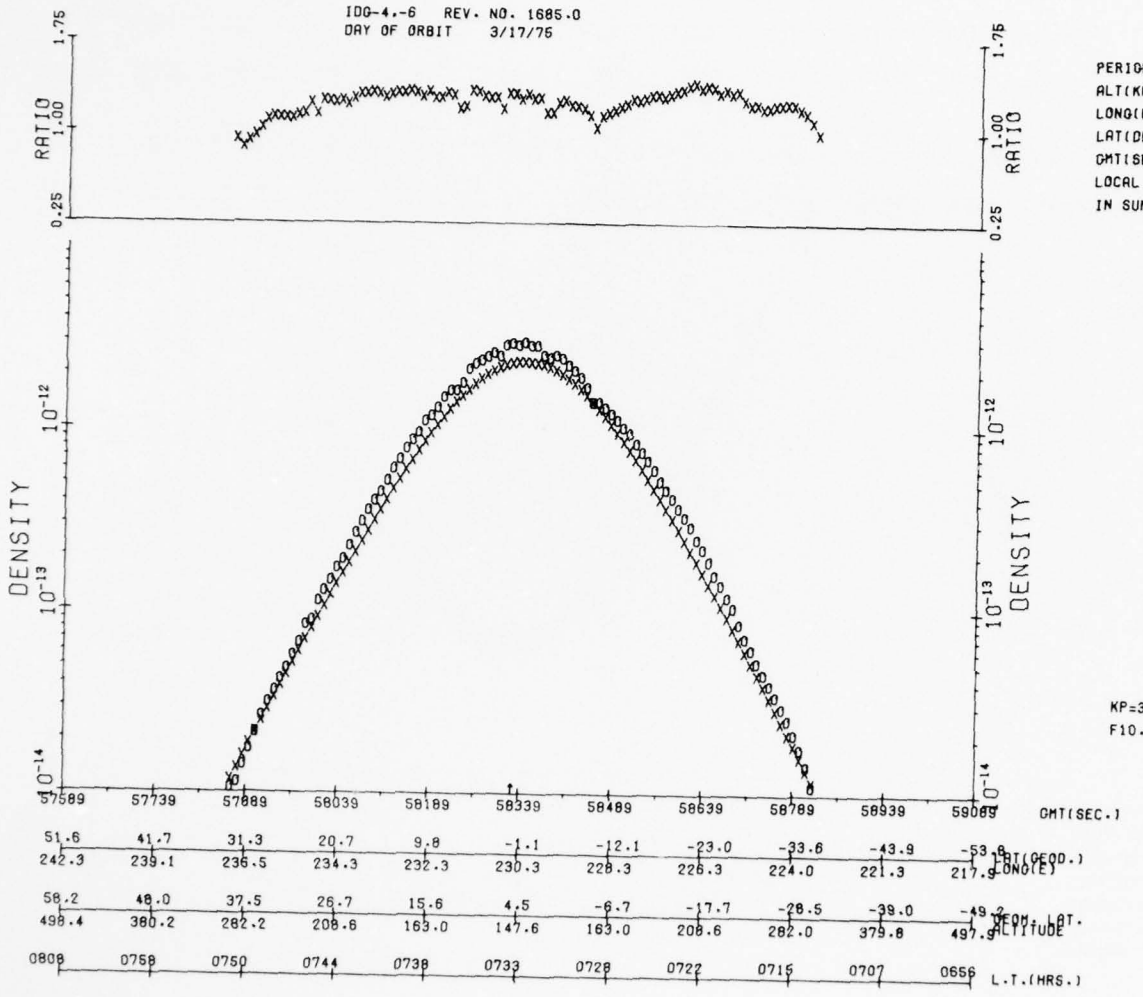
PERIGEE
ALT(KM.)= 147.62
LONG(E)= 285.19
LAT(DEG.)= -1.51
GMT(SEC.)= 45167.3 (1232H)
LOCAL TIME 0733 (H)
IN SUN FROM 44417. TO 45917.

KP=3+
F10.7=77.0



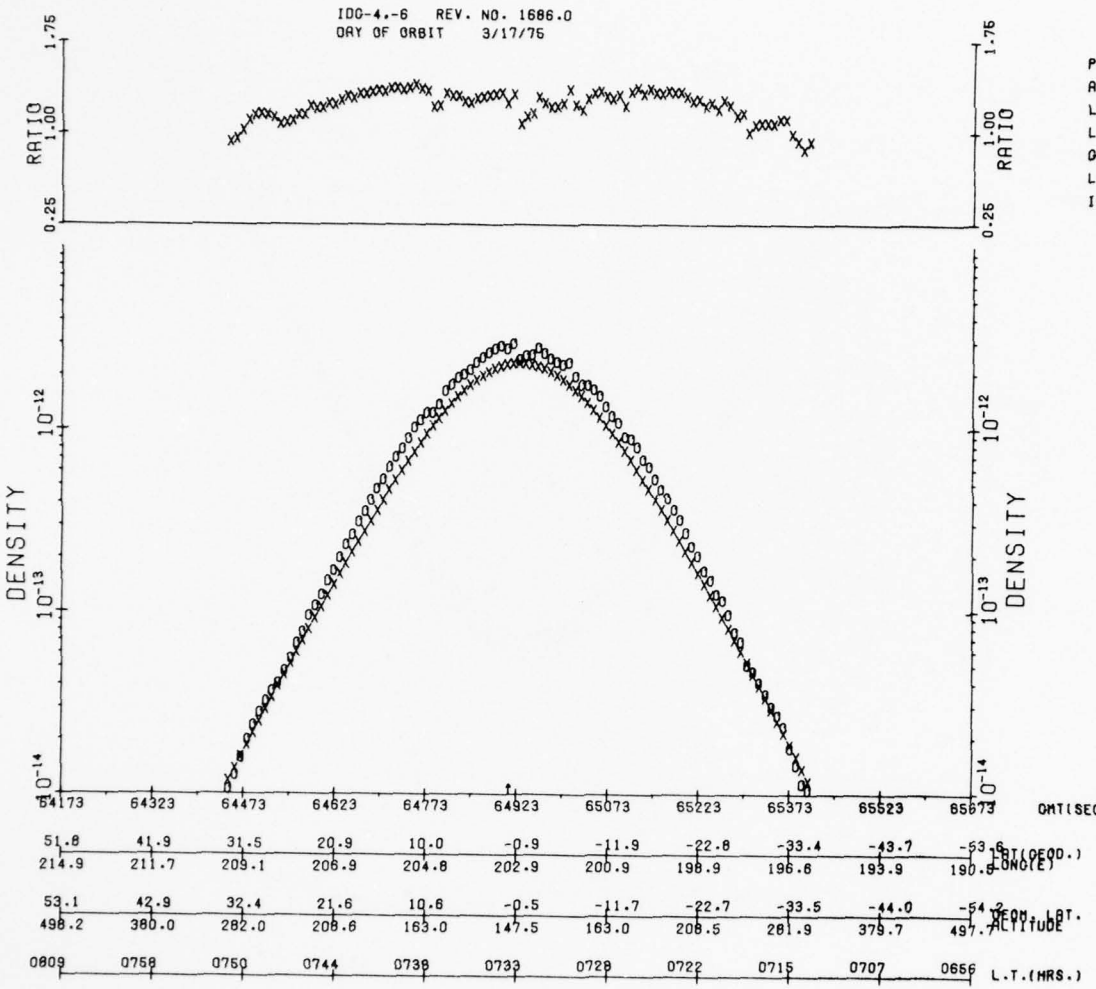
PERIGEE
ALT(KM.)= 147.58
LONG(E)= 257.75
LAT(DEG.)= -1.32
GMT(SEC.)= 51753.7 (1422H)
LOCAL TIME 0733 (H)
IN SUN FROM 51004. TO 52504.

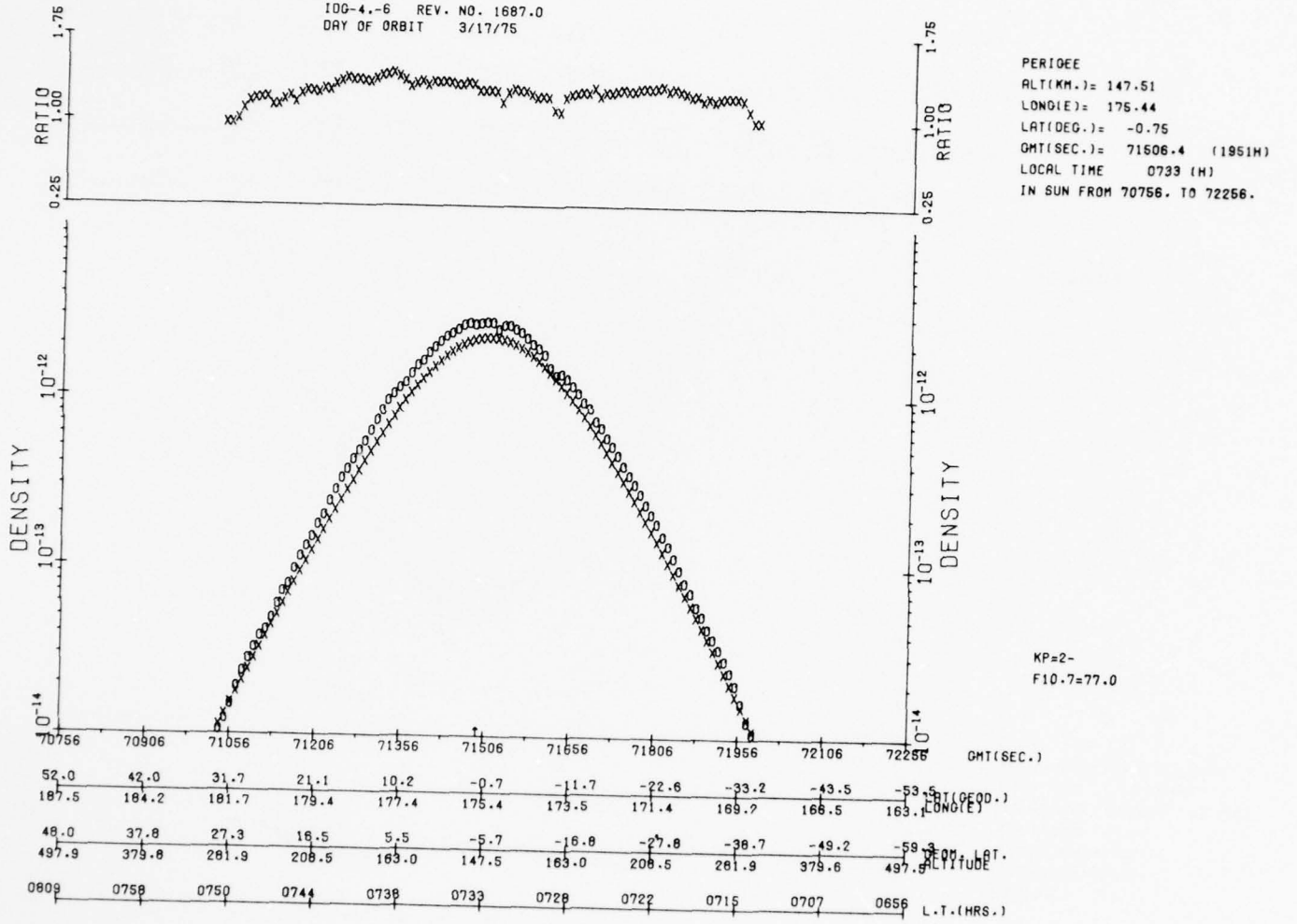
KP=3-
F10.7=77.0

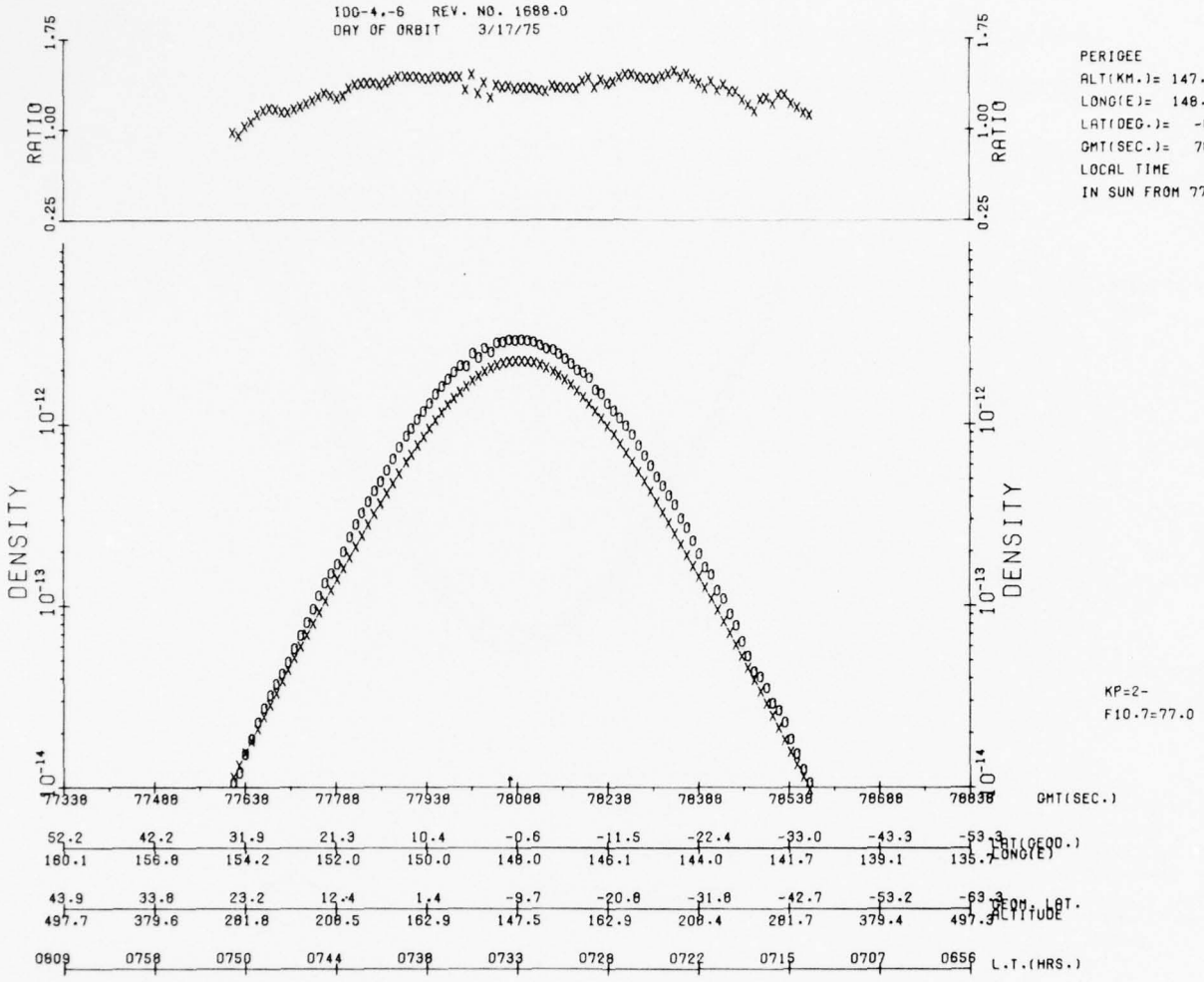


PERIGEE
ALT(KM.)= 147.56
LONG(E)= 230.31
LAT(DEG.)= -1.13
GMT(SEC.)= 58338.9 (1612H)
LOCAL TIME 0733 (H)
IN SUN FROM 57589. TO 59089.

KP=3-
F10.7=77.0

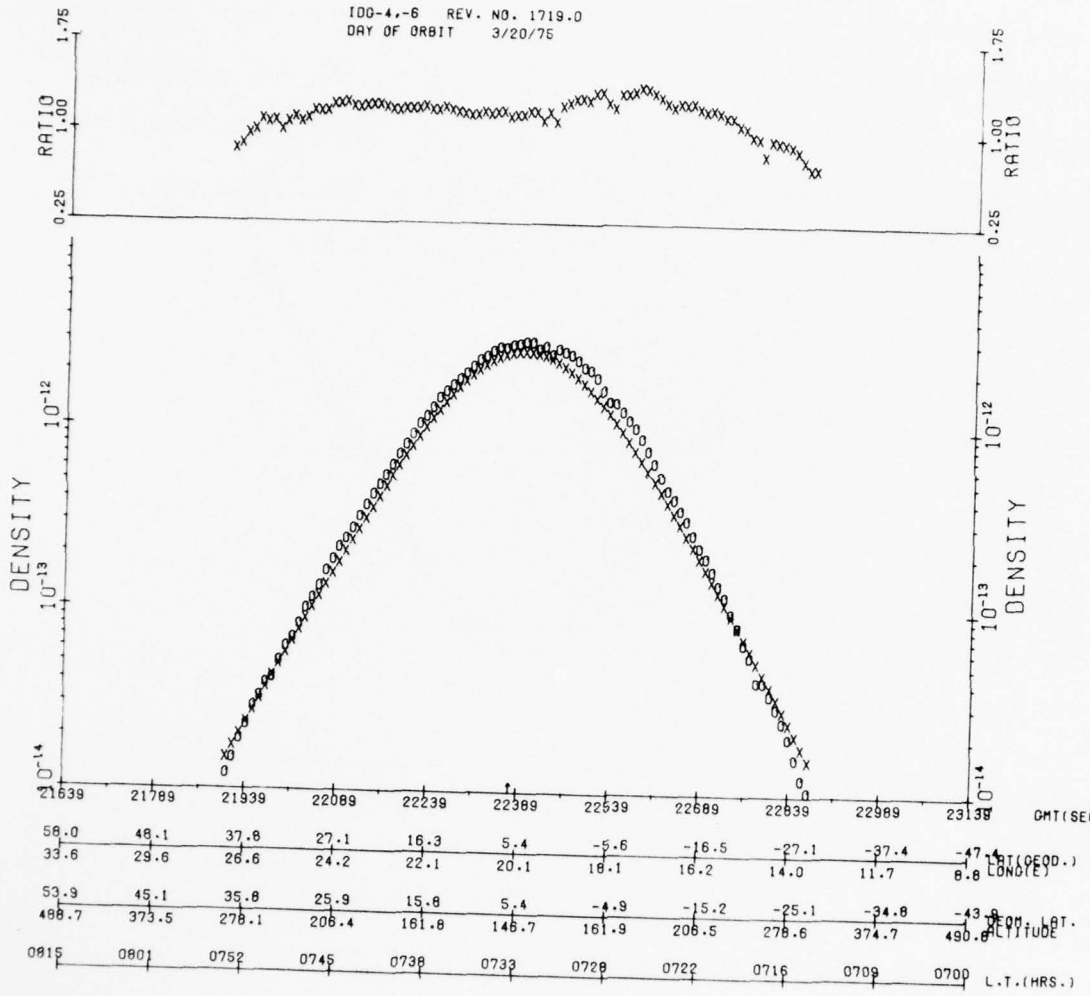

IDC-4.-6 REV. NO. 1686.0
ORY OF ORBIT 3/17/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 147.53
LONG(E)= 202.87
LAT(DEG.)= -0.94
GMT(SEC.)= 64923.2 (1802H)
LOCAL TIME 0733 (H)
IN SUN FROM 64173. TO 65673.
KP=3-
F10.7=77.0
64173 64323 64473 64623 64773 64923 65073 65223 65373 65523 65673 GMT(SEC.)
51.8 41.9 31.5 20.9 10.0 -0.9 -11.9 -22.8 -33.4 -43.7 -53.6 LAT(DEGD.)
214.9 211.7 209.1 206.9 204.8 202.9 200.9 198.9 196.8 193.9 190.8 LONG(E)
53.1 42.9 32.4 21.6 10.6 -0.5 -11.7 -22.7 -33.5 -44.0 -54.2 GEOM. LAT.
498.2 380.0 282.0 208.6 163.0 147.5 163.0 208.5 281.9 379.7 497.7 ALTITUDE
0809 0758 0750 0744 0738 0733 0728 0722 0715 0707 0656 L.T.(HRS.)

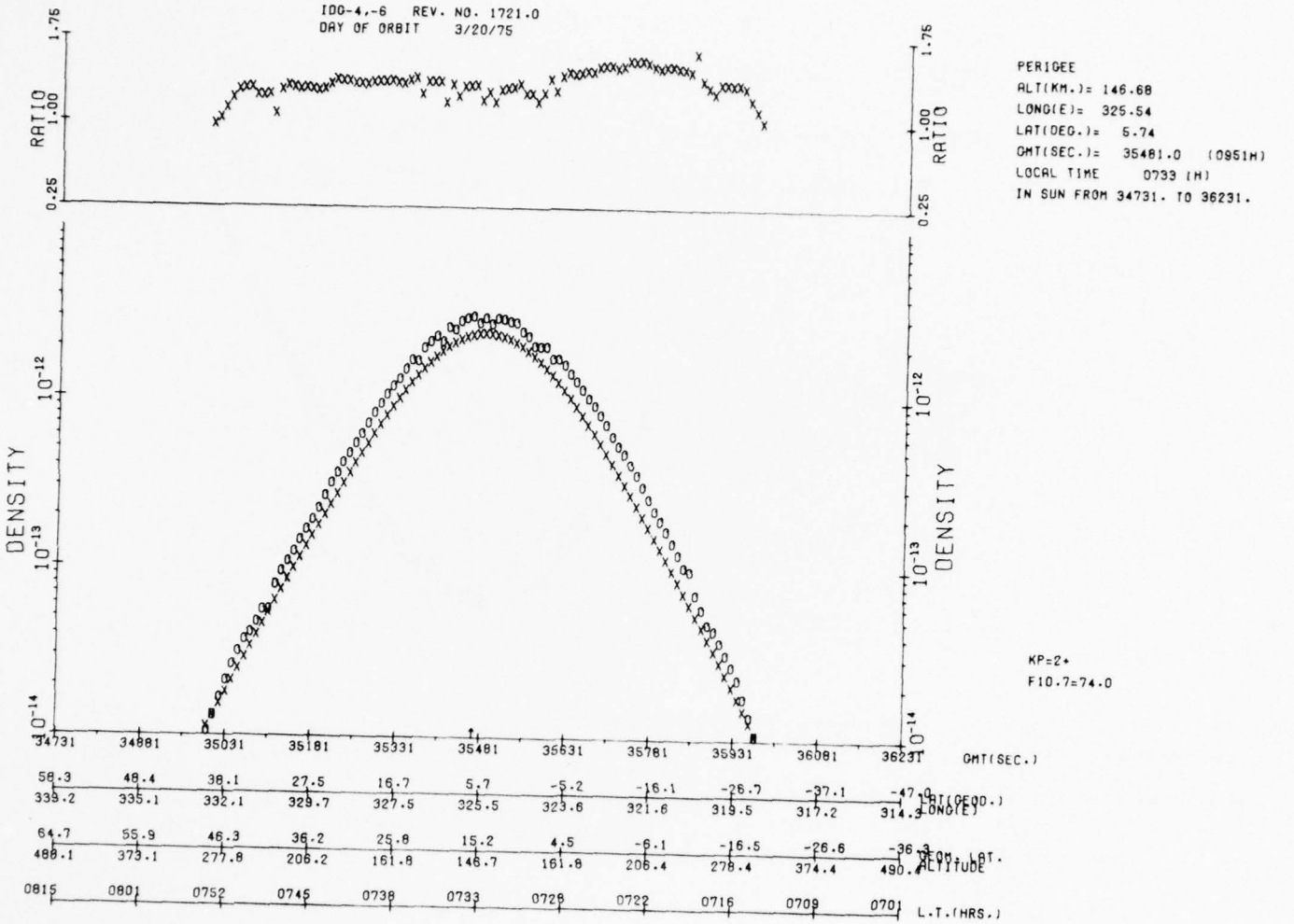

IDG-4.-6 REV. NO. 1687.0
DAY OF ORBIT 3/17/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 147.51
LONG(E)= 175.44
LAT(DEG.)= -0.75
GMT(SEC.)= 71506.4 (1951H)
LOCAL TIME 0733 (H)
IN SUN FROM 70756. TO 72256.
KP=2-
F10.7=77.0
70756 70906 71056 71206 71356 71506 71656 71806 71956 72106 72256 GMT(SEC.)
52.0 42.0 31.7 21.1 10.2 -0.7 -11.7 -22.6 -33.2 -43.5 -53.5 GEOD. LAT.(DEGD.)
187.5 184.2 181.7 179.4 177.4 175.4 173.5 171.4 169.2 166.5 163.1 LONG(E)
48.0 37.8 27.3 16.5 5.5 -5.7 -16.8 -27.8 -38.7 -49.2 -59.3 GEOD. LAT.
497.9 379.8 281.9 208.5 163.0 147.5 163.0 208.5 281.9 379.6 497.9 ALTITUDE
0809 0758 0750 0744 0738 0733 0728 0722 0715 0707 0656 L.T.(HRS.)

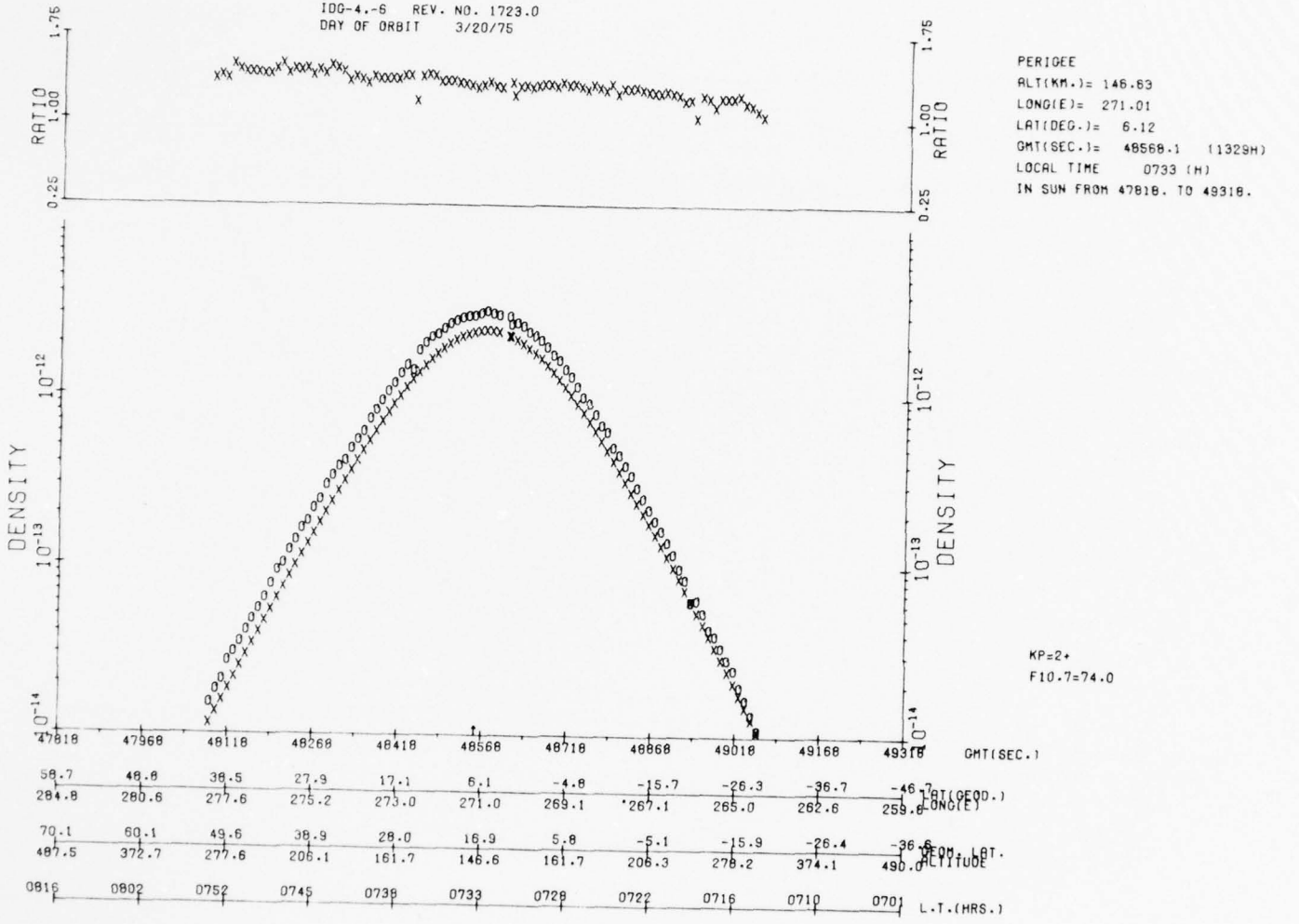


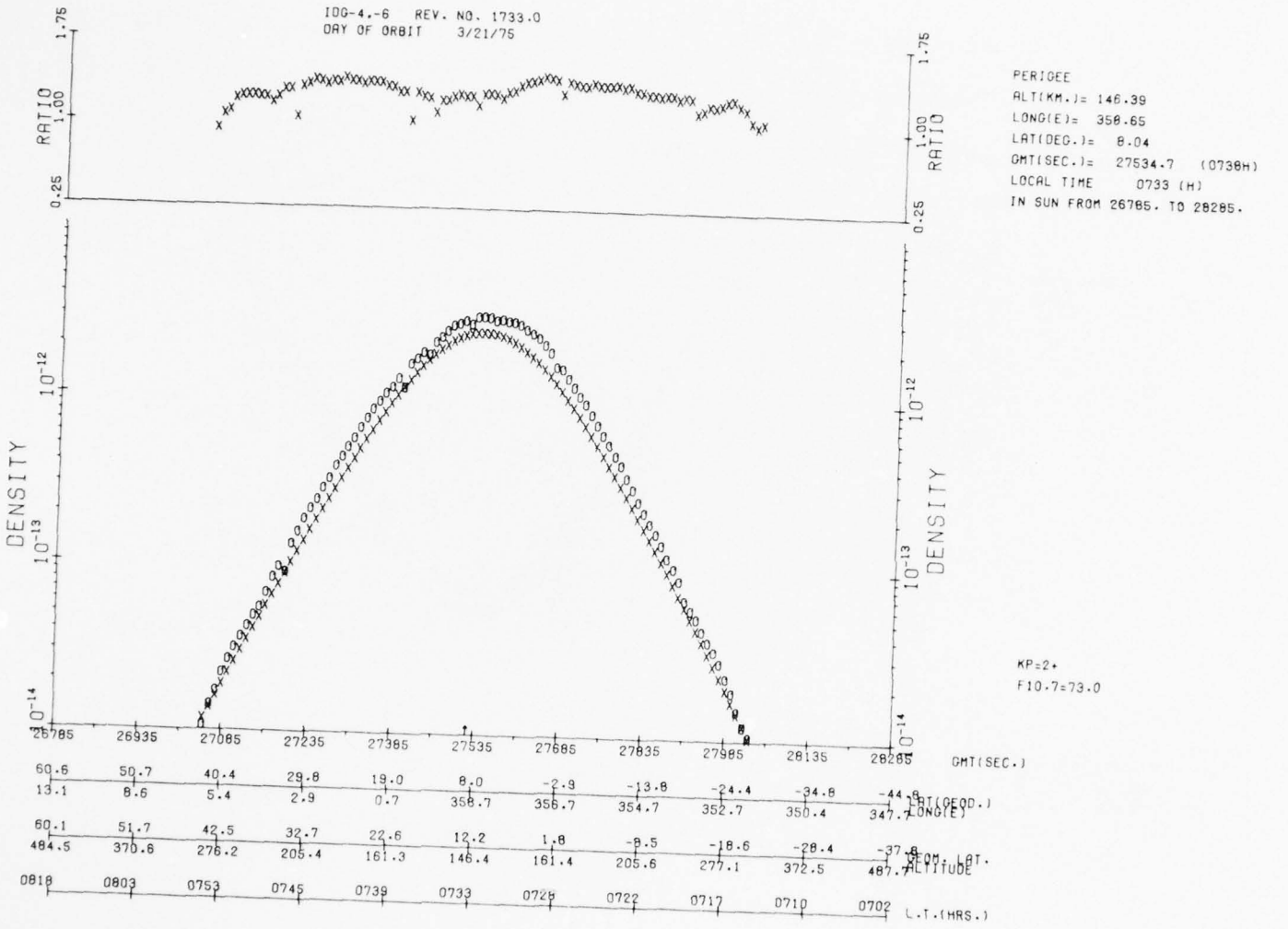
PERIGEE
ALT(KM.)= 147.48
LONG(E)= 148.02
LAT(DEG.)= -0.56
GMT(SEC.)= 78088.5 (2141H)
LOCAL TIME 0733 (H)
IN SUN FROM 77338. TO 78838.

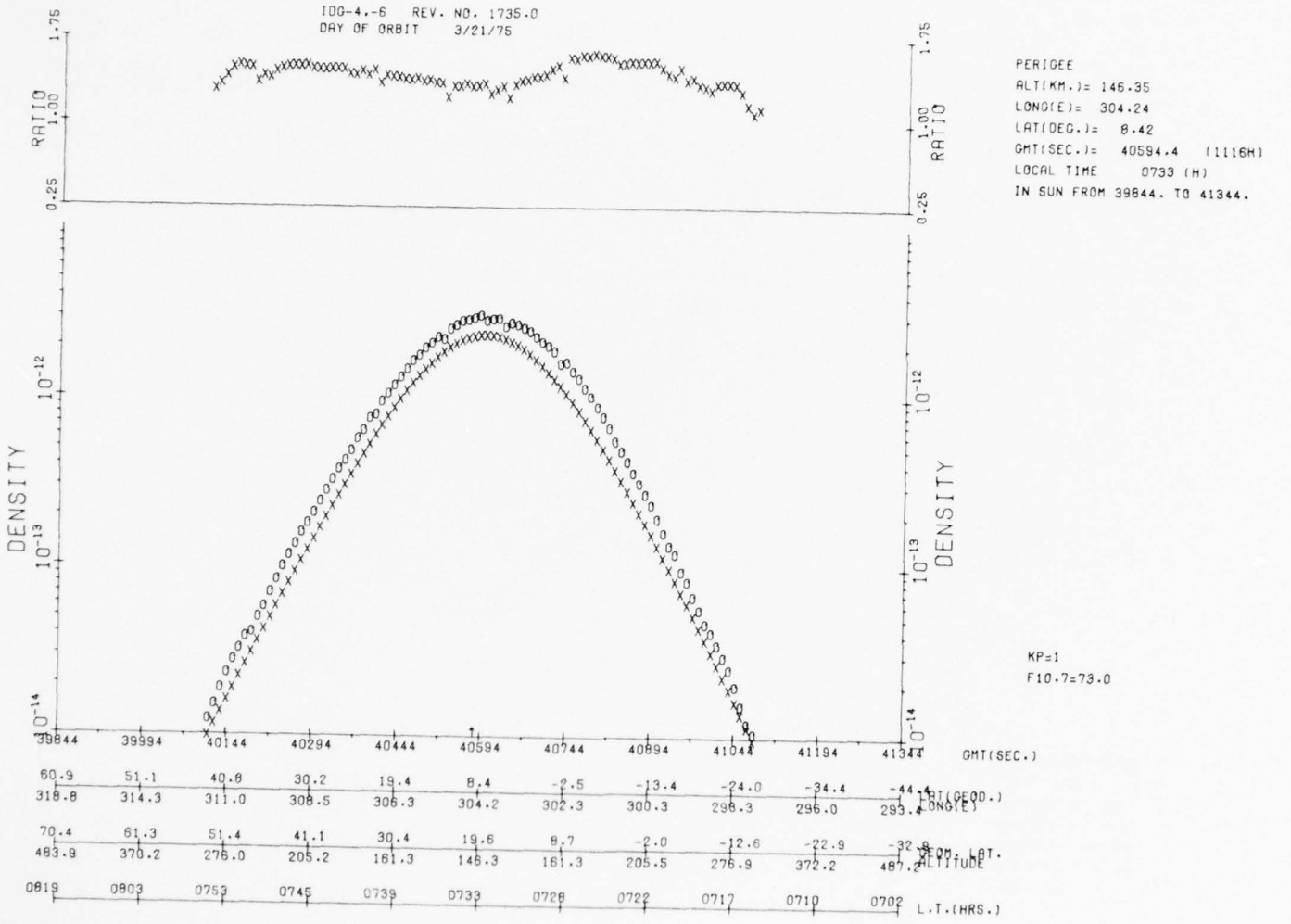
KP=2-
F10.7=77.0


IDG-4,-6 REV. NO. 1719.0
DAY OF ORBIT 3/20/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 146.73
LONG(E)= 20.09
LAT(DEG.)= 5.36
GMT(SEC.)= 22389.3 (0613H)
LOCAL TIME 0733 (H)
IN SUN FROM 21639. TO 23139.
KP=4+
F10.7=74.0
21639 21789 21939 22089 22239 22389 22539 22689 22839 22989 23139 GMT(SEC.)
58.0 48.1 37.8 27.1 16.3 5.4 -5.6 -16.5 -27.1 -37.4 -47.4 LAT(GEOD.)
33.6 29.6 26.6 24.2 22.1 20.1 18.1 16.2 14.0 11.7 8.8 LONG(E)
53.9 45.1 35.8 25.9 15.8 5.4 -4.9 -15.2 -25.1 -34.8 -43.8 GEOM. LAT.
488.7 373.5 278.1 208.4 161.8 146.7 161.9 208.5 278.6 374.7 490.8 ALTITUDE
0815 0801 0752 0745 0738 0733 0728 0722 0716 0709 0700 L.T.(HRS.)


IDG-4,-6 REV. NO. 1721.0
DAY OF ORBIT 3/20/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 146.68
LONG(E)= 325.54
LAT(DEG.)= 5.74
GMT(SEC.)= 35481.0 (0951H)
LOCAL TIME 0733 (H)
IN SUN FROM 34731. TO 36231.
KP=2+
F10.7=74.0
34731 34881 35031 35181 35331 35481 35631 35781 35931 36081 36231 GMT(SEC.)
58.3 48.4 38.1 27.5 16.7 5.7 -5.2 -16.1 -26.7 -37.1 -47.0 LAT(DEGD.)
339.2 335.1 332.1 329.7 327.5 325.5 323.6 321.6 319.5 317.2 314.9 LONG(E)
64.7 55.9 46.3 36.2 25.8 15.2 4.5 -6.1 -16.5 -26.6 -36.3 GEOM. LAT.
488.1 373.1 277.8 206.2 161.8 146.7 161.8 206.4 278.4 374.4 490.4 ALTITUDE
0815 0801 0752 0745 0738 0733 0728 0722 0716 0709 0701 L.T.(HRS.)

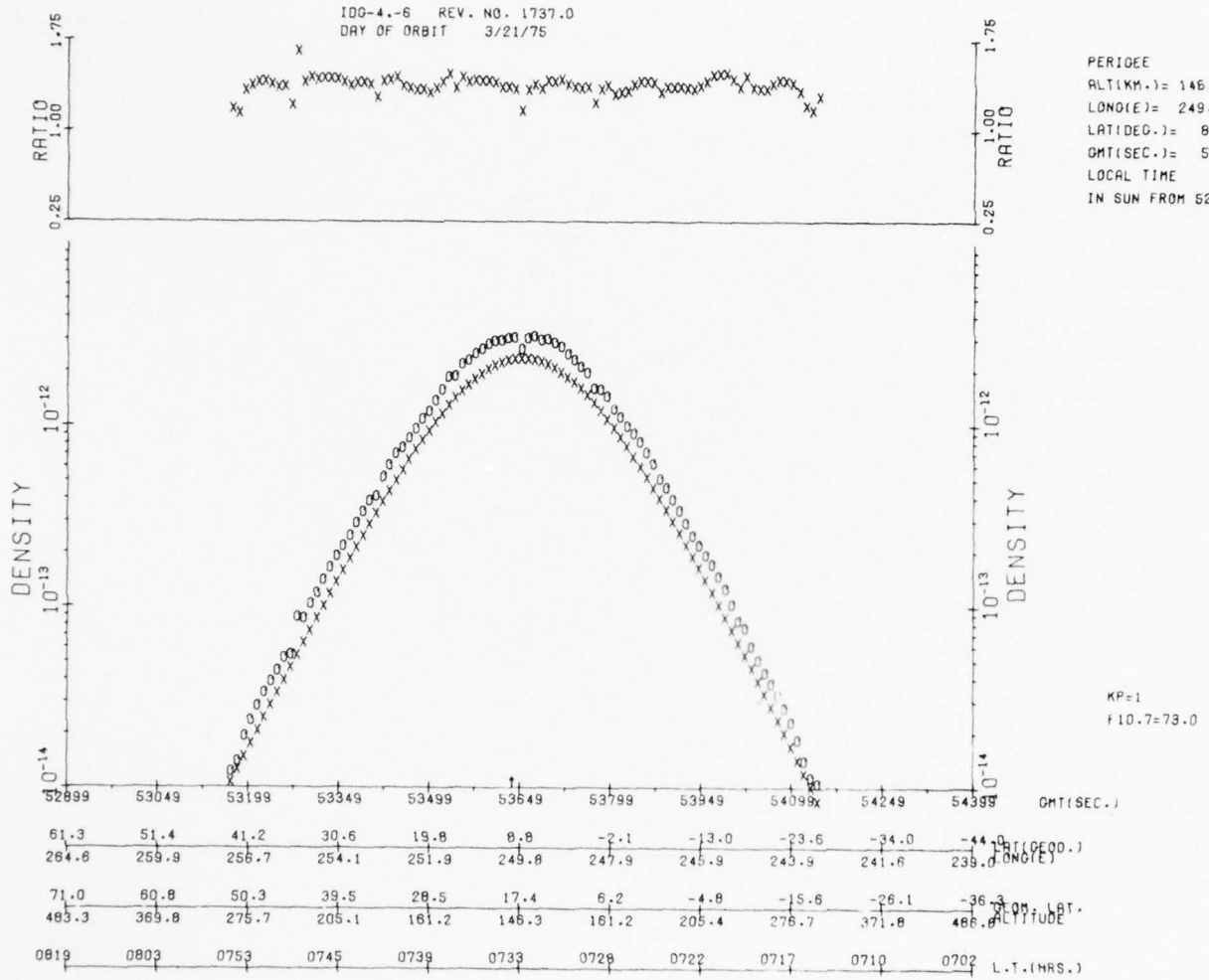

IDG-4.-6 REV. NO. 1723.0
DAY OF ORBIT 3/20/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 146.83
LONG(E)= 271.01
LAT(DEG.)= 6.12
GMT(SEC.)= 48568.1 (1329H)
LOCAL TIME 0733 (H)
IN SUN FROM 47818. TO 49318.
KP=2+
F10.7=74.0
47818 47968 48118 48268 48418 48568 48718 48868 49018 49168 49318 GMT(SEC.)
58.7 48.8 38.5 27.9 17.1 6.1 -4.8 -15.7 -26.3 -36.7 -46.7 LAT(GEOD.)
284.8 280.6 277.6 275.2 273.0 271.0 269.1 267.1 265.0 262.6 259.8 LONG(E)
70.1 60.1 49.6 38.9 28.0 16.9 5.8 -5.1 -15.9 -26.4 -36.6 GEOM. LAT.
487.5 372.7 277.6 206.1 161.7 146.6 161.7 206.3 278.2 374.1 490.0 ALTITUDE
0816 0802 0752 0745 0738 0733 0728 0722 0716 0710 0701 L.T.(HRS.)

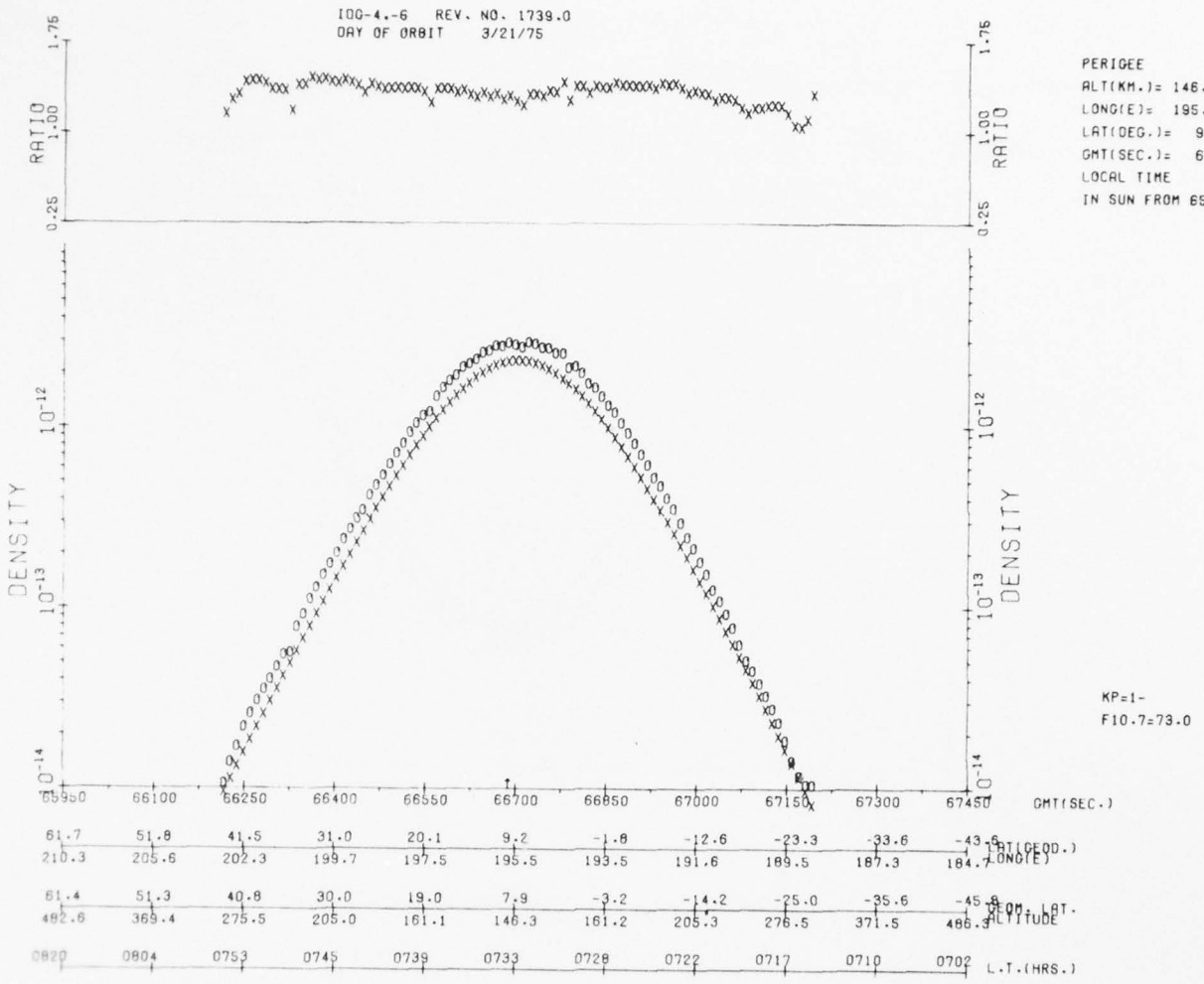

IDG-4,-6 REV. NO. 1733.0
DAY OF ORBIT 3/21/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 146.39
LONG(E)= 358.65
LAT(DEG.)= 8.04
GMT(SEC.)= 27534.7 (0738H)
LOCAL TIME 0733 (H)
IN SUN FROM 26785. TO 28285.
KP=2+
F10.7=73.0
26785 26935 27085 27235 27385 27535 27685 27835 27985 28135 28285 GMT(SEC.)
60.6 50.7 40.4 29.8 19.0 8.0 -2.9 -13.8 -24.4 -34.8 -44.8 LAT(GEOD.)
13.1 8.6 5.4 2.9 0.7 358.7 356.7 354.7 352.7 350.4 347.7 LONG(E)
60.1 51.7 42.5 32.7 22.6 12.2 1.8 -8.5 -18.6 -28.4 -37.8 GEOM. LAT.
484.5 370.8 276.2 205.4 161.3 146.4 161.4 205.6 277.1 372.5 487.7 ALTITUDE
0818 0803 0753 0745 0739 0733 0728 0722 0717 0710 0702 L.T.(HRS.)



PERIGEE
ALT(KM.)= 146.35
LONG(E)= 304.24
LAT(DEG.)= 8.42
GMT(SEC.)= 40594.4 (1116H)
LOCAL TIME 0733 (H)
IN SUN FROM 39844. TO 41344.

KP=1
F10.7=73.0


IDG-4.-6 REV. NO. 1737.0
DAY OF ORBIT 3/21/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 146.30
LONG(E)= 249.84
LAT(DEG.)= 8.81
GMT(SEC.)= 53649.5 (1454H)
LOCAL TIME 0733 (H)
IN SUN FROM 52899. TO 54399.
KP=1
F10.7=73.0
52899 53049 53199 53349 53499 53649 53799 53949 54099 54249 54399 GMT(SEC.)
61.3 51.4 41.2 30.6 19.8 0.8 -2.1 -13.0 -23.6 -34.0 -44.0 LAT(GEOD.)
264.6 259.9 256.7 254.1 251.9 249.8 247.9 245.9 243.9 241.6 239.0 LONG(E)
71.0 60.8 50.3 39.5 28.5 17.4 6.2 -4.8 -15.6 -26.1 -36.3 SUB. LAT.
483.3 369.8 275.7 205.1 161.2 146.3 161.2 205.4 276.7 371.8 486.8 ALTITUDE
0819 0803 0753 0745 0739 0733 0728 0722 0717 0710 0702 L.T.(HRS.)

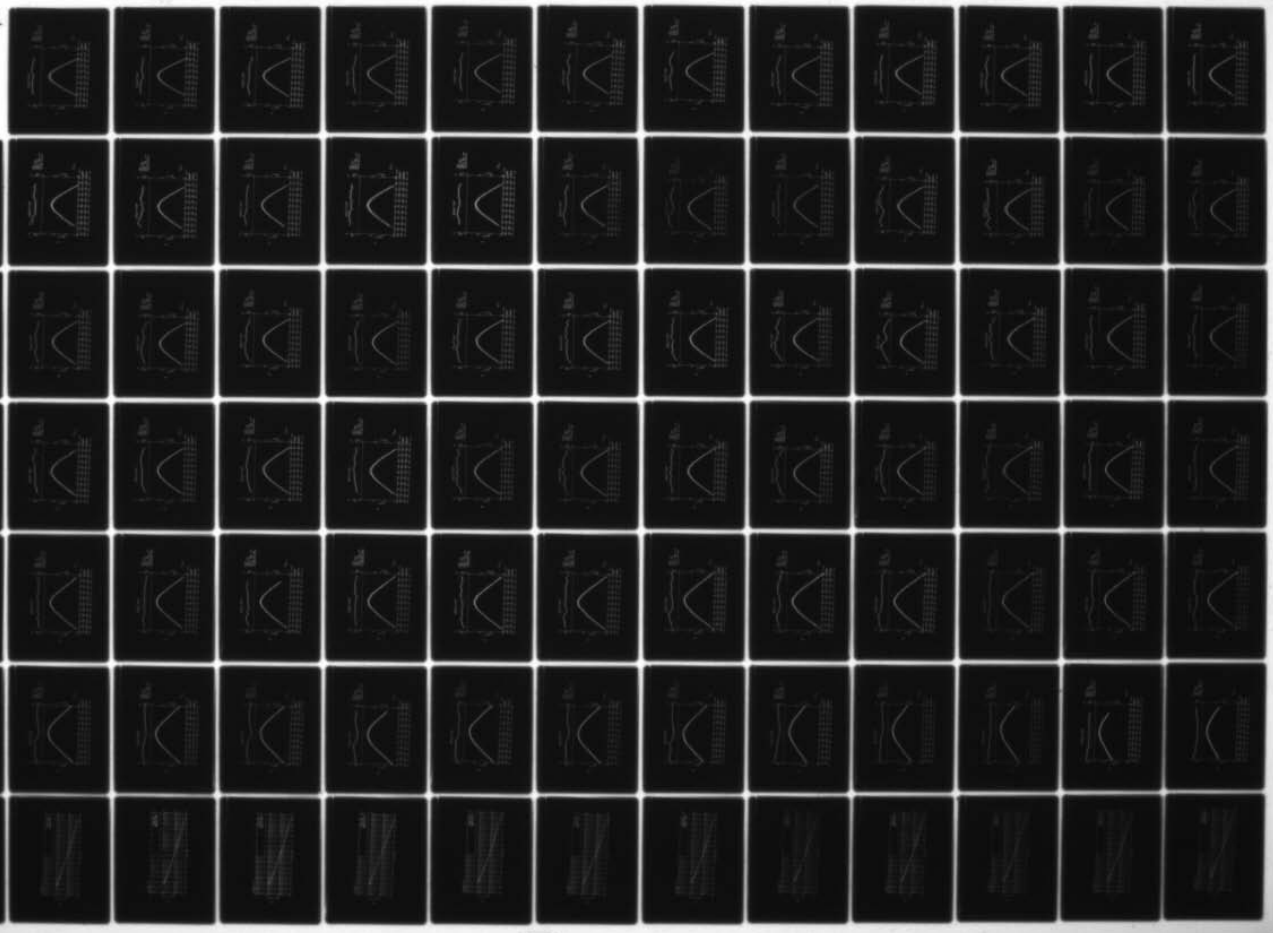

IDG-4.-6 REV. NO. 1739.0
DAY OF ORBIT 3/21/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 146.26
LONG(E)= 195.47
LAT(DEG.)= 9.19
GMT(SEC.)= 66699.9 (1831H)
LOCAL TIME 0733 (H)
IN SUN FROM 65950. TO 67450.
KP=1-
F10.7=73.0
65950 66100 66250 66400 66550 66700 66850 67000 67150 67300 67450 GMT(SEC.)
61.7 51.8 41.5 31.0 20.1 9.2 -1.8 -12.6 -23.3 -33.6 -43.6 LAT(GEOD.)
210.3 205.6 202.3 199.7 197.5 195.5 193.5 191.6 189.5 187.3 184.7 LONG(E)
61.4 51.3 40.8 30.0 19.0 7.9 -3.2 -14.2 -25.0 -35.6 -45.8 GEOM. LAT.
482.6 369.4 275.5 205.0 161.1 146.3 161.2 205.3 276.5 371.5 486.3 ALTITUDE
0820 0804 0753 0745 0739 0733 0728 0722 0717 0710 0702 L.T.(HRS.)

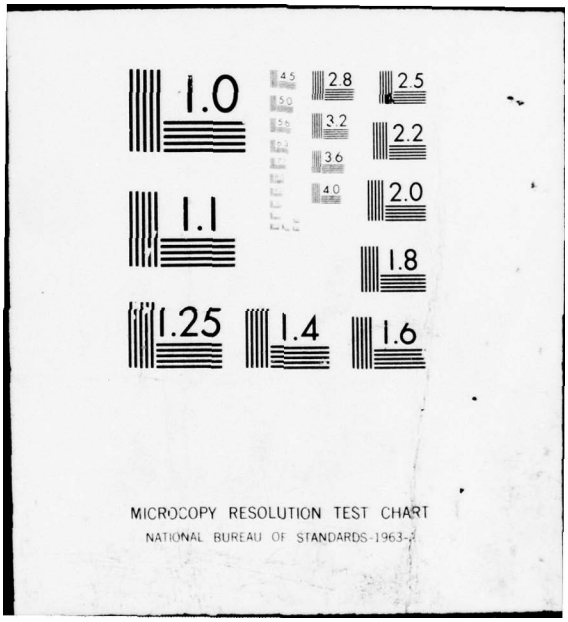
AD-A061 613 AIR FORCE GEOPHYSICS LAB HANSCOM AFB MASS F/G 4/1
SATELLITE IONIZATION GAUGE MEASUREMENTS OF ATMOSPHERIC DENSITY.(U)
AUG 78 J P MCISAAC, R E MCINERNEY, D DELOREY

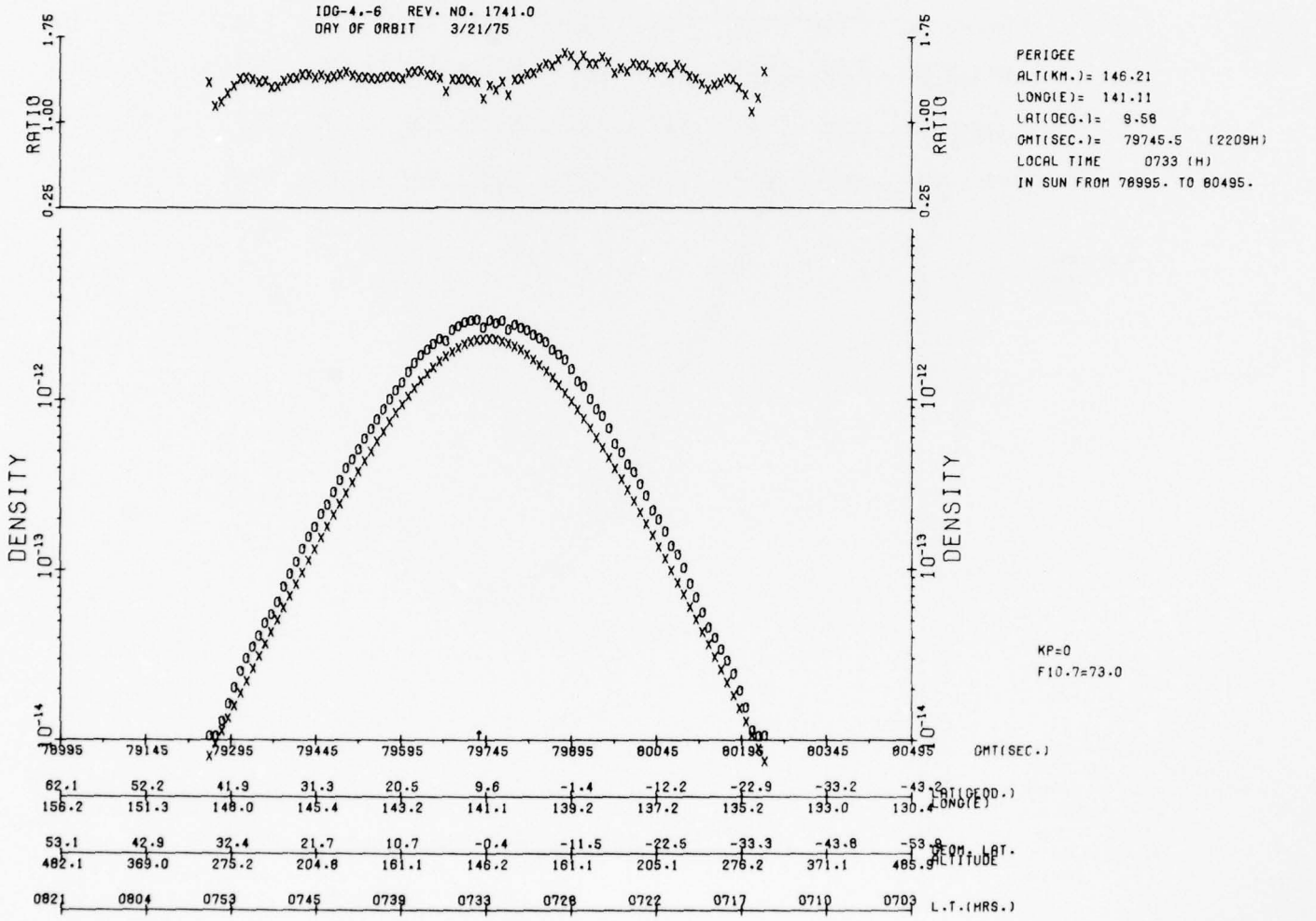
UNCLASSIFIED AFGL-TR-78-0201 NL

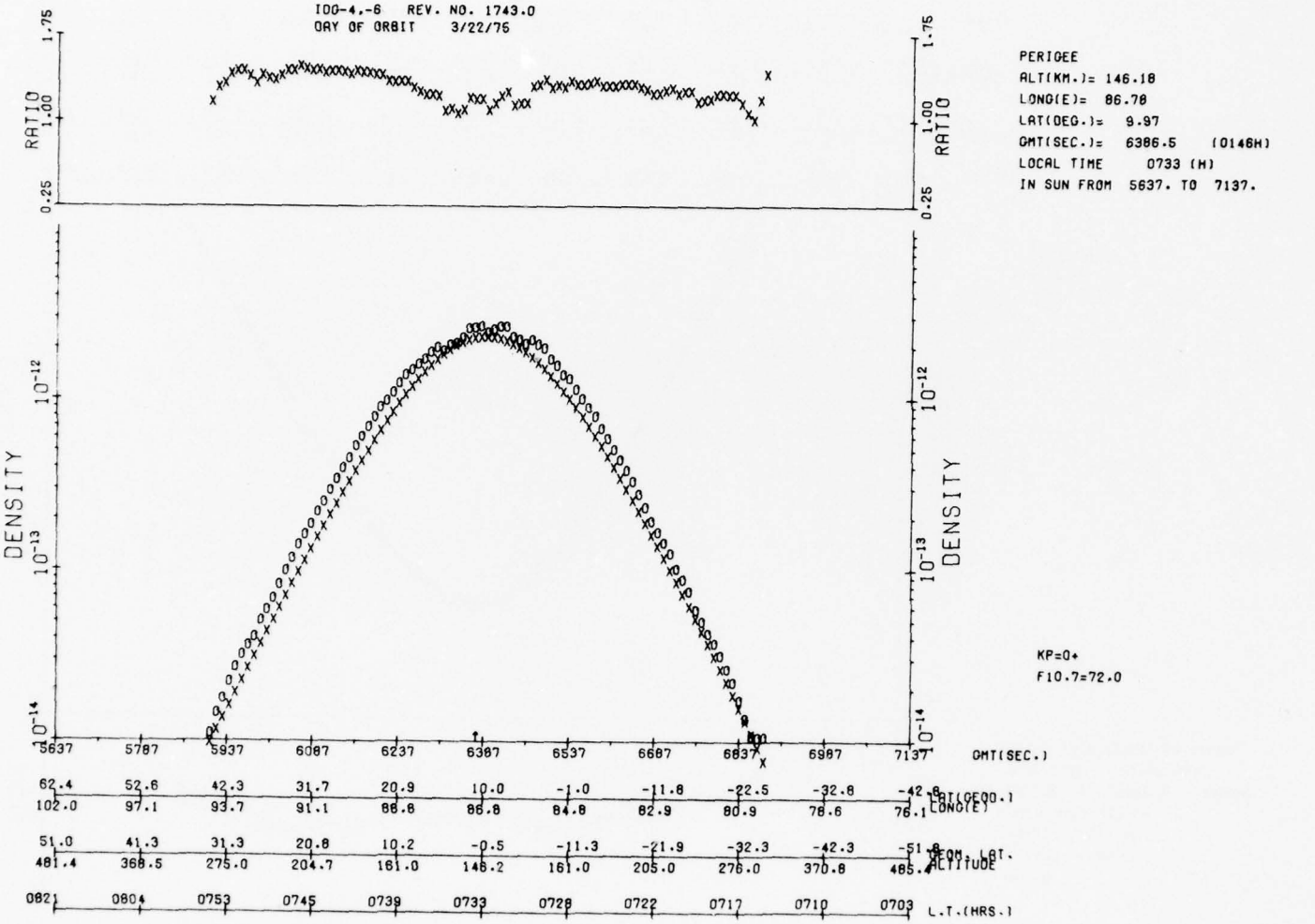
2 OF 4

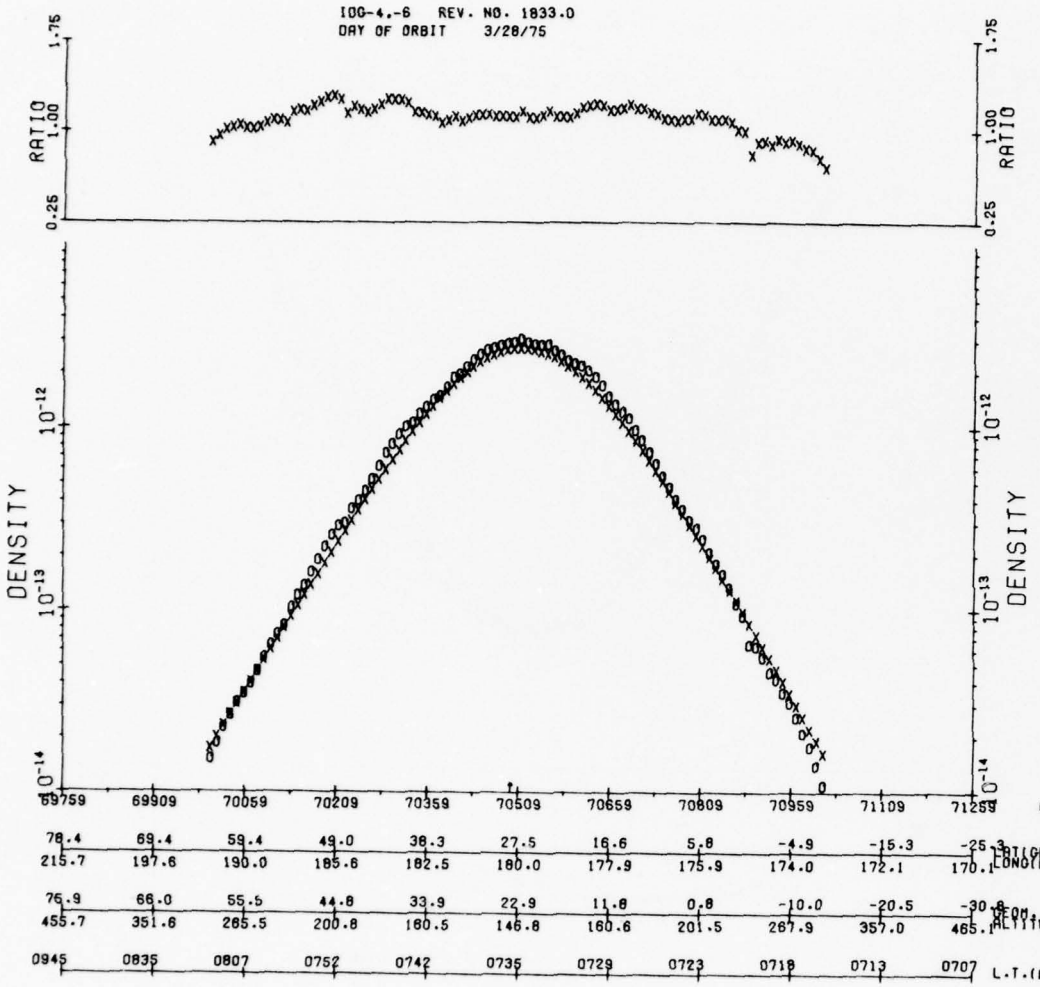
AD A061613




1.0
1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.5
2.8
3.2
3.6
4.0
4.5
5.0
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

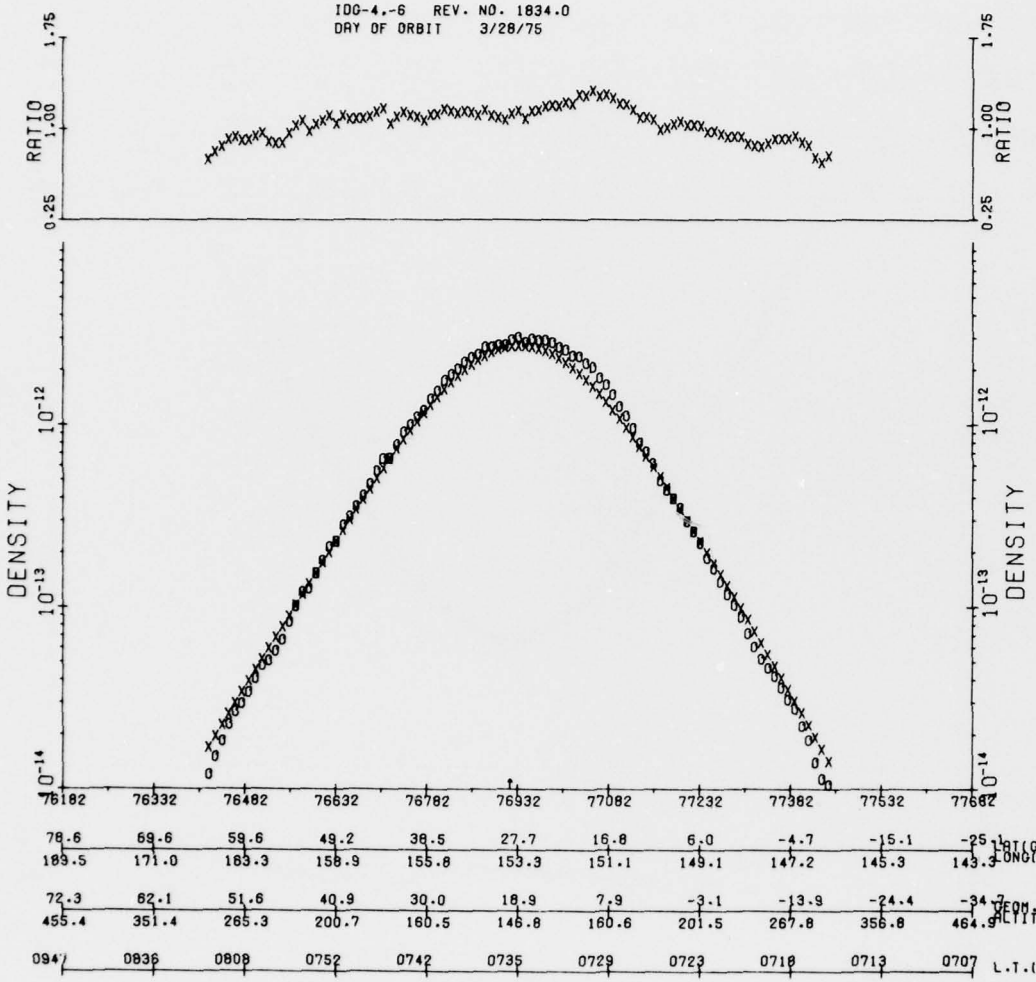

IDG-4,-6 REV. NO. 1741.0
DAY OF ORBIT 3/21/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 146.21
LONG(E)= 141.11
LAT(DEG.)= 9.58
GMT(SEC.)= 79745.5 (2209H)
LOCAL TIME 0733 (H)
IN SUN FROM 78995. TO 80495.
KP=0
F10.7=73.0
78995 79145 79295 79445 79595 79745 79895 80045 80195 80345 80495 GMT(SEC.)
62.1 52.2 41.9 31.3 20.5 9.6 -1.4 -12.2 -22.9 -33.2 -43.2 LAT(DEGD.)
156.2 151.3 148.0 145.4 143.2 141.1 139.2 137.2 135.2 133.0 130.4 LONG(E)
53.1 42.9 32.4 21.7 10.7 -0.4 -11.5 -22.5 -33.3 -43.8 -53.8 GEOM. LAT.
482.1 369.0 275.2 204.8 161.1 146.2 161.1 205.1 276.2 371.1 485.9 ALTITUDE
0821 0804 0753 0745 0739 0733 0728 0722 0717 0710 0703 L.T.(HRS.)


IDG-4,-6 REV. NO. 1743.0
DAY OF ORBIT 3/22/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 146.18
LONG(E)= 86.78
LAT(DEG.)= 9.97
GMT(SEC.)= 6386.5 (0146H)
LOCAL TIME 0733 (H)
IN SUN FROM 5637. TO 7137.
KP=0+
F10.7=72.0
5637 5787 5937 6087 6237 6387 6537 6687 6837 6987 7137 GMT(SEC.)
62.4 52.6 42.3 31.7 20.9 10.0 -1.0 -11.8 -22.5 -32.8 -42.8 LAT(DEG.)
102.0 97.1 93.7 91.1 88.8 86.8 84.8 82.9 80.9 78.6 76.1 LONG(E)
51.0 41.3 31.3 20.8 10.2 -0.5 -11.3 -21.9 -32.3 -42.3 -51.8 FROM LAT.
481.4 368.5 275.0 204.7 161.0 148.2 161.0 205.0 276.0 370.8 485.4 ALTITUDE
0821 0804 0753 0745 0739 0733 0728 0722 0717 0710 0703 L.T.(HRS.)



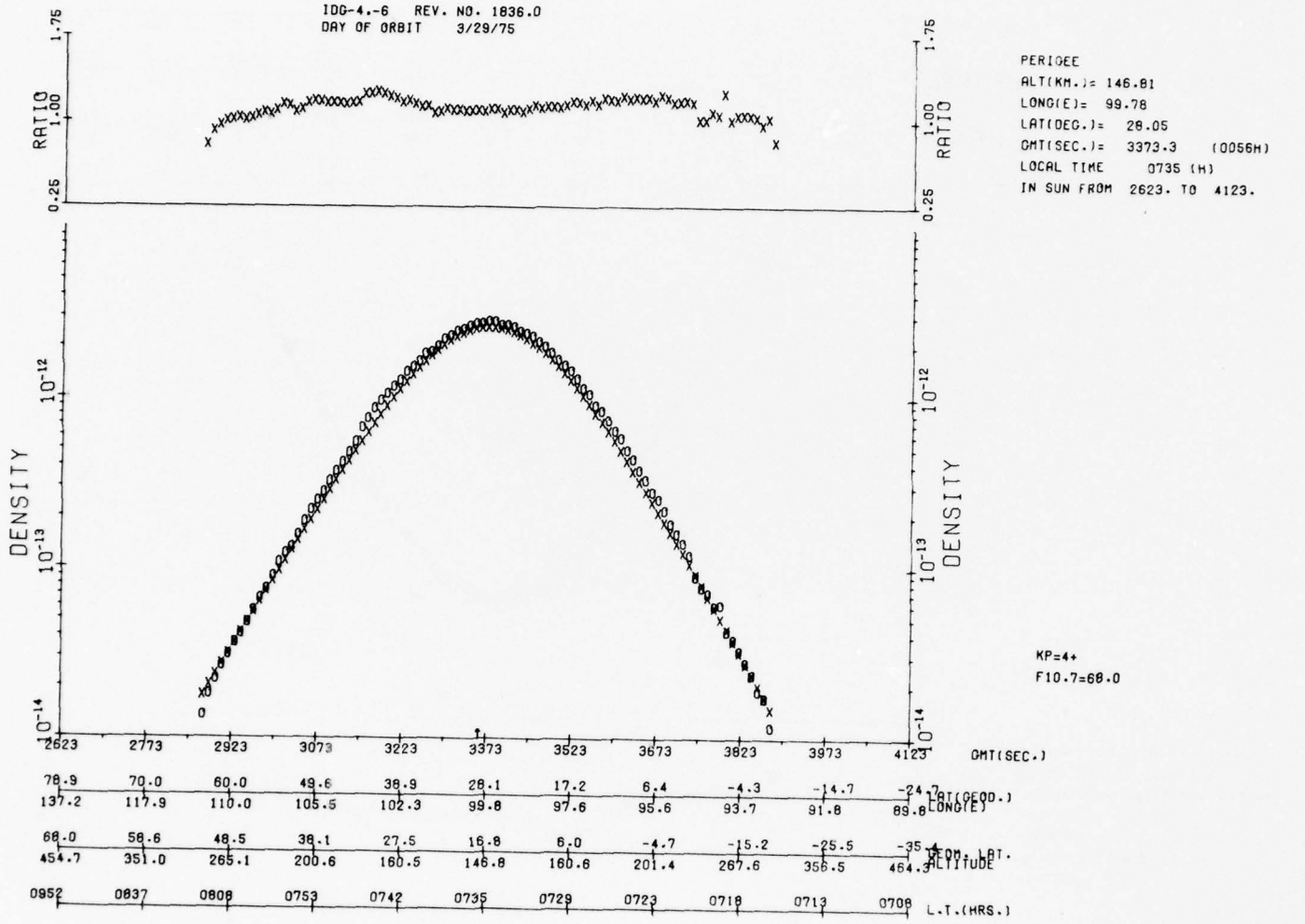
PERIGEE
ALT(KM.)= 146.81
LONG(E)= 180.02
LAT(DEG.)= 27.46
GMT(SEC.)= 70509.4 (1935H)
LOCAL TIME 0735 (H)
IN SUN FROM 69759. TO 71259.

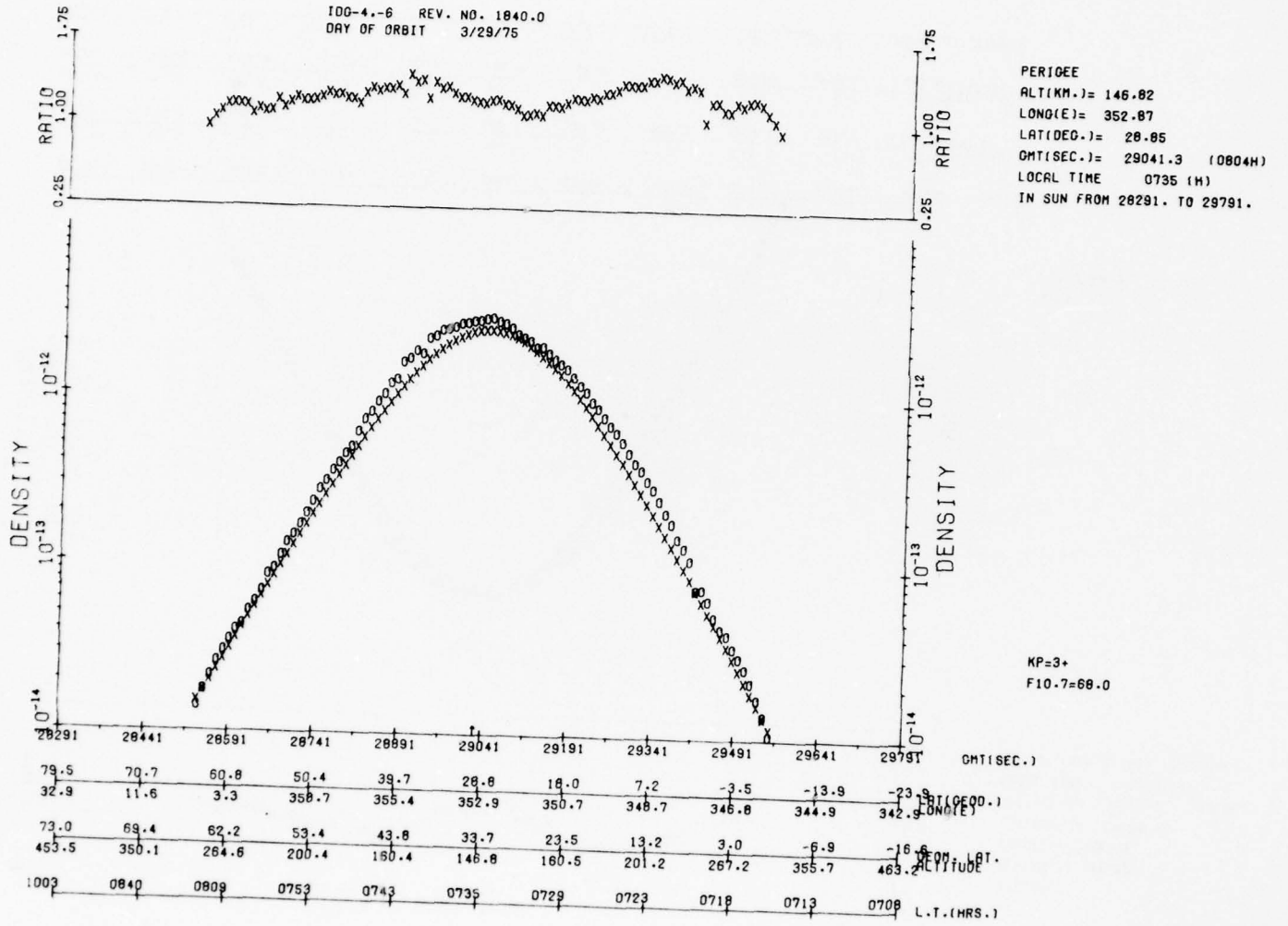
KP=5
F10.7=68.0

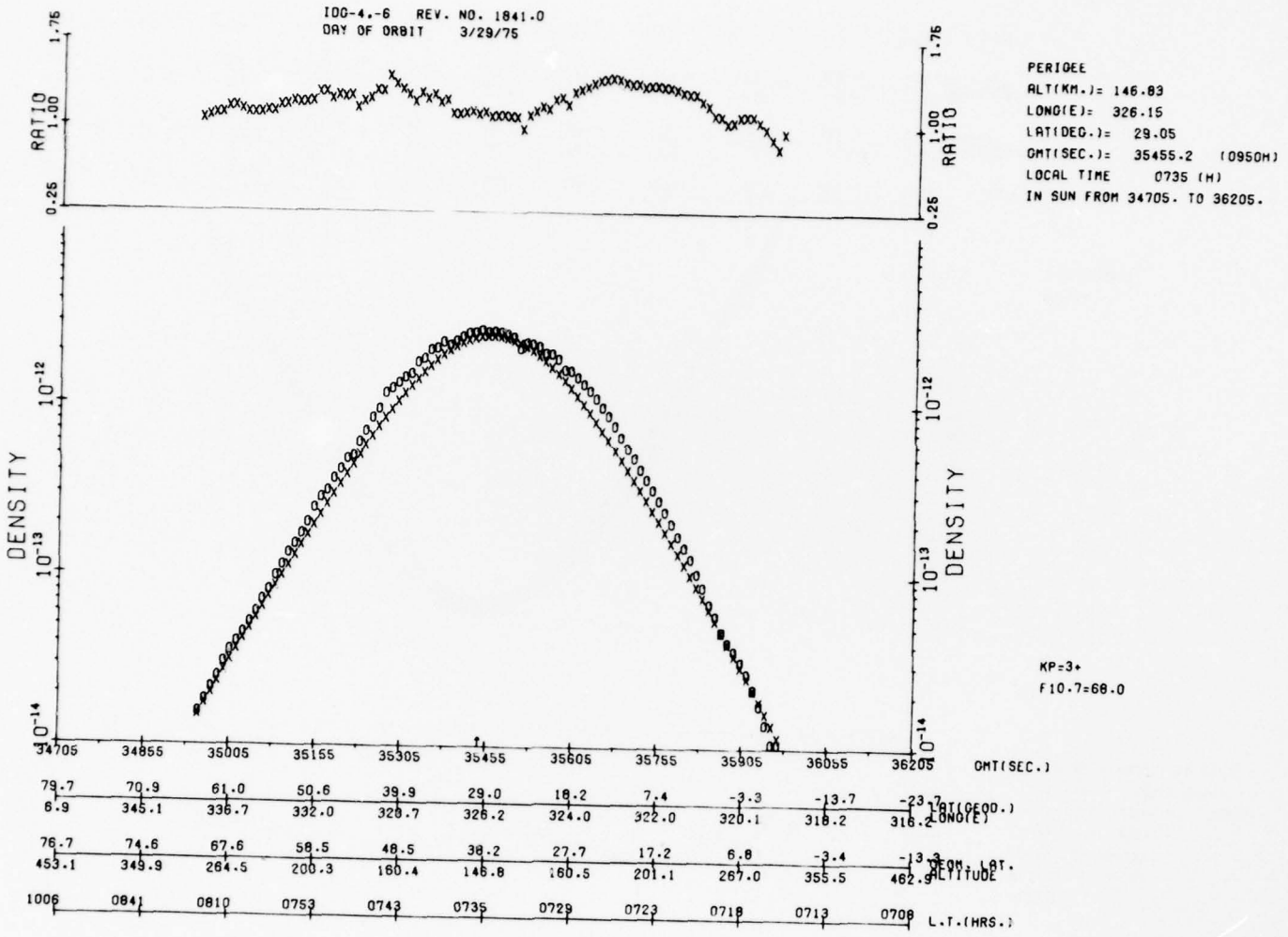


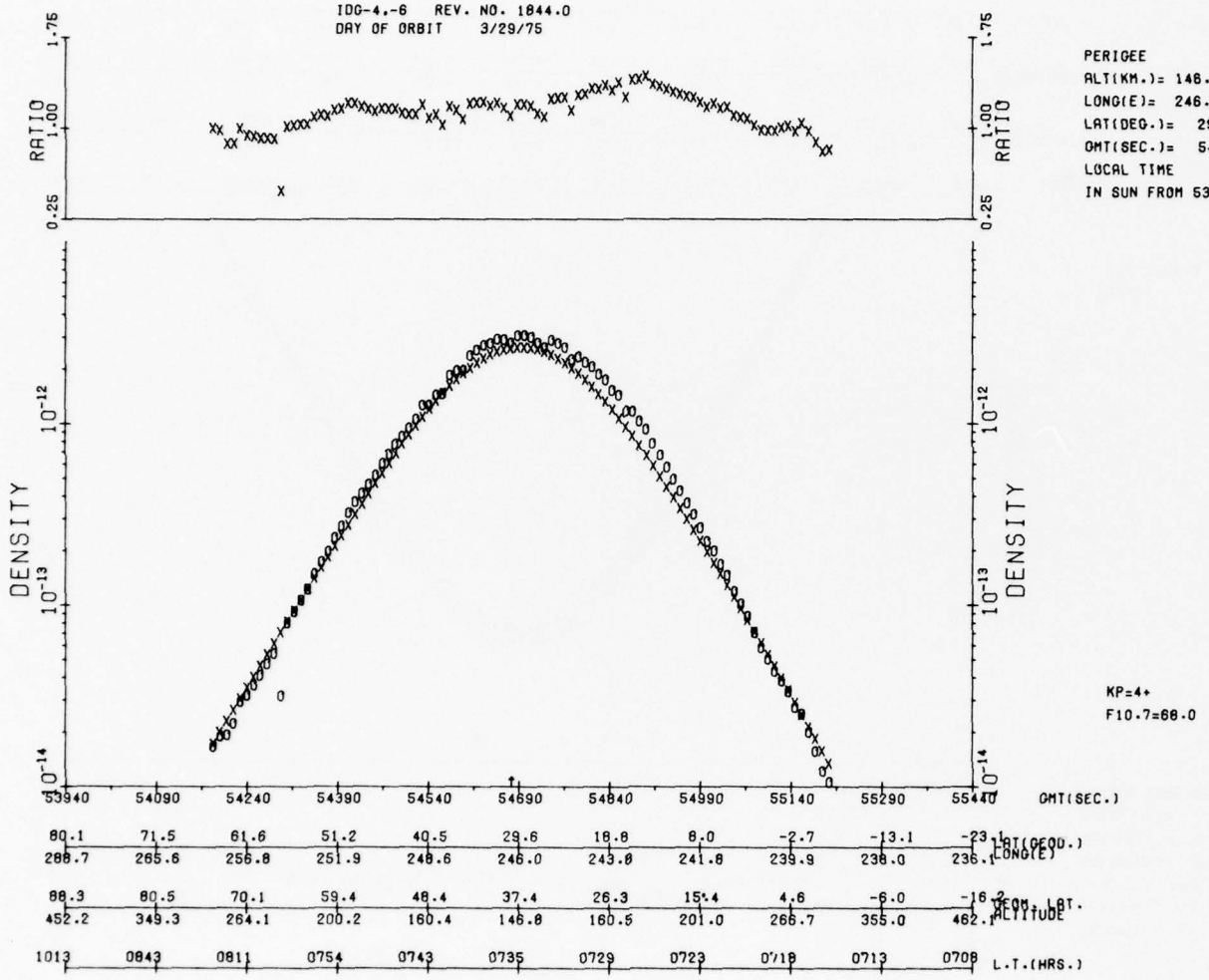
PERIGEE
ALT(KM.)= 146.81
LONG(E)= 153.27
LAT(DEG.)= 27.66
GMT(SEC.)= 76931.9 (2122H)
LOCAL TIME 0735 (H)
IN SUN FROM 76182. TO 77682.

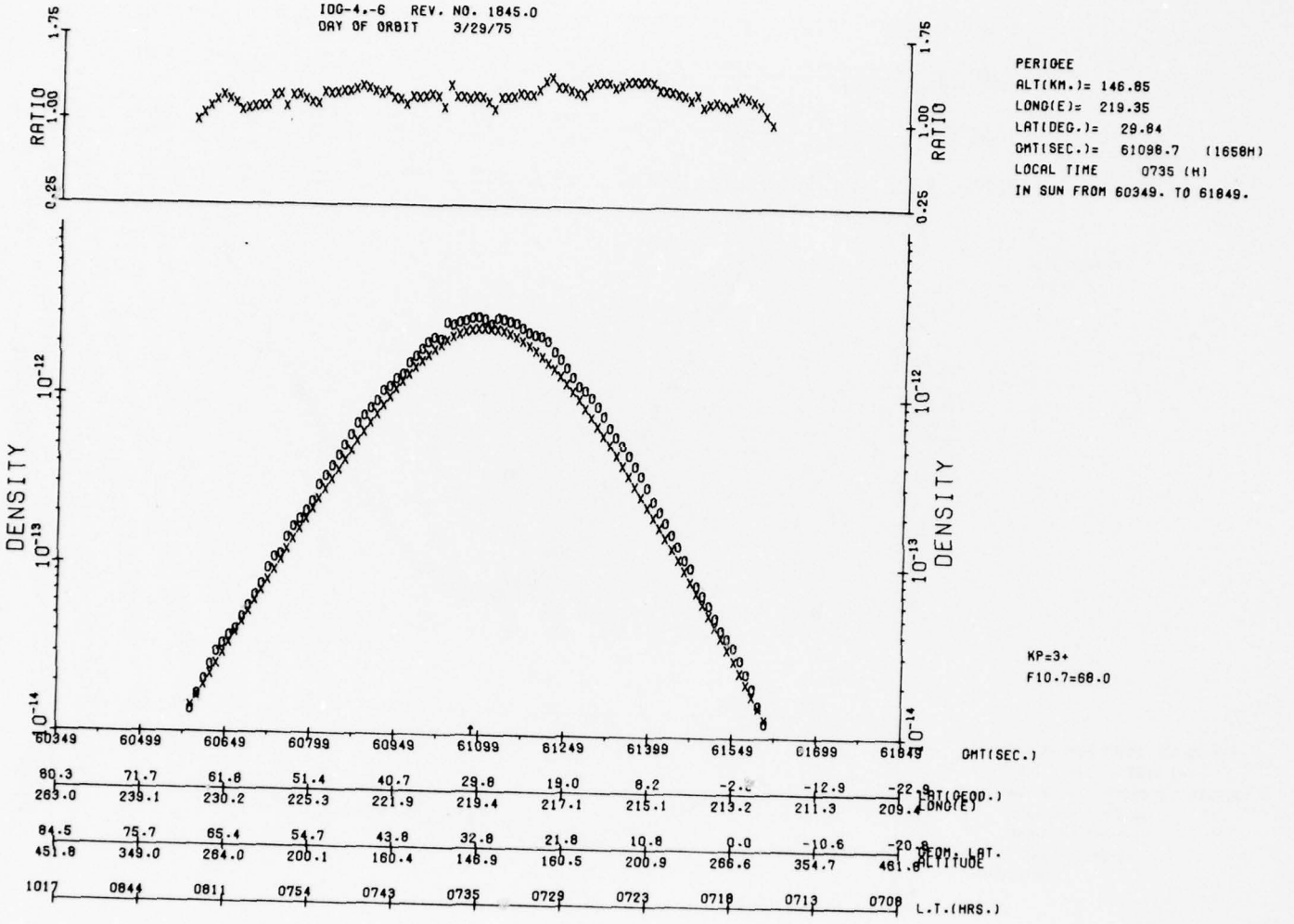
KP=5
F10.7=68.0

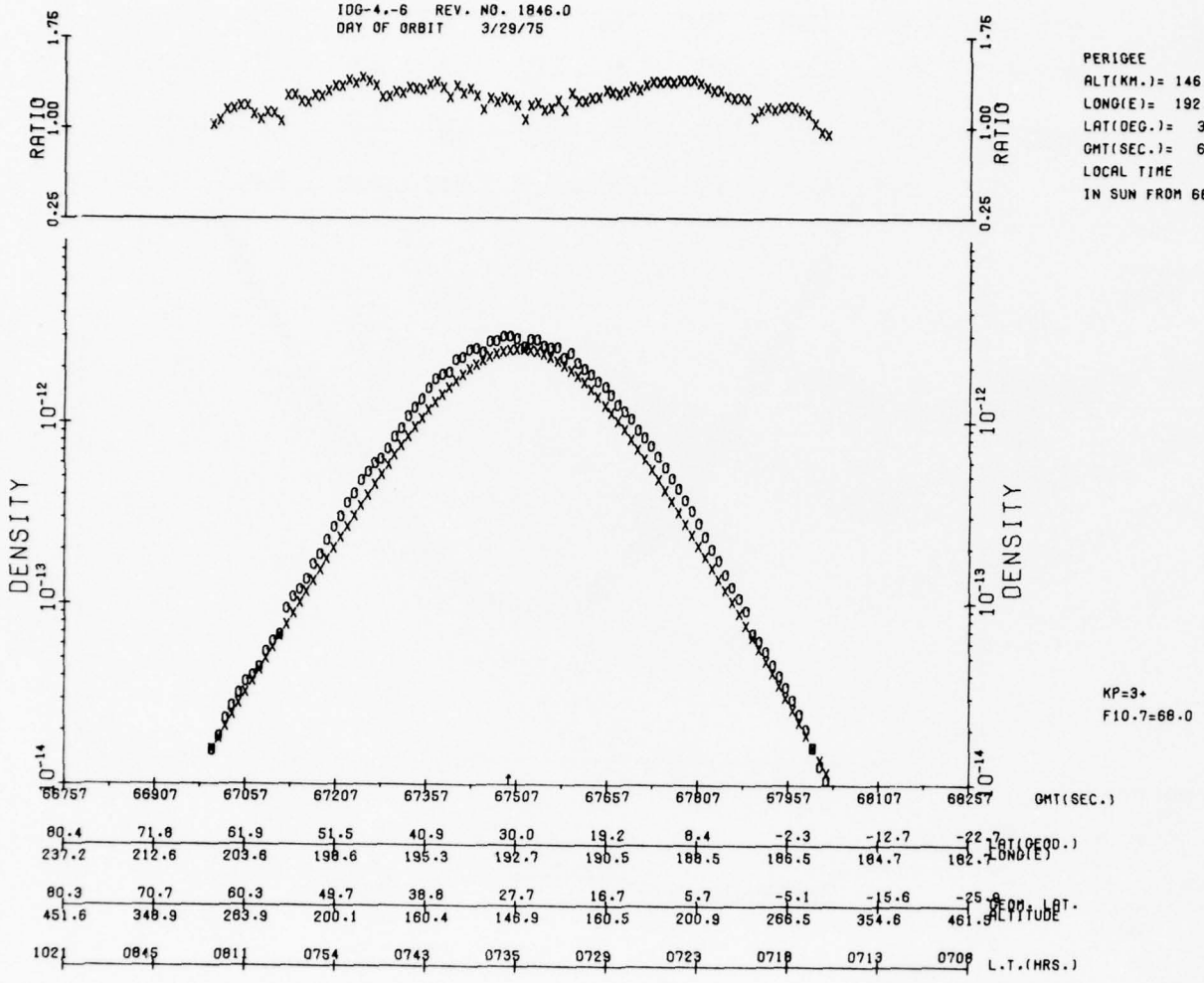

IDG-4.-6 REV. NO. 1836.0
DAY OF ORBIT 3/29/75
RATIO
1.75
1.00
0.25
PERIGEE
ALT(KM.)= 146.81
LONG(E)= 99.78
LAT(DEG.)= 28.05
GMT(SEC.)= 3373.3 (0056H)
LOCAL TIME 0735 (H)
IN SUN FROM 2623. TO 4123.
DENSITY
10-12
10-13
10-14
KP=4+
F10.7=68.0
2623 2773 2923 3073 3223 3373 3523 3673 3823 3973 4123 GMT(SEC.)
78.9 70.0 60.0 49.6 38.9 28.1 17.2 6.4 -4.3 -14.7 -24.7 LAT(GEOD.)
137.2 117.9 110.0 105.5 102.3 99.8 97.6 95.6 93.7 91.8 89.8 LONG(E)
68.0 58.6 48.5 38.1 27.5 16.8 6.0 -4.7 -15.2 -25.5 -35.4 GEOM. LAT.
454.7 351.0 265.1 200.6 160.5 146.8 160.6 201.4 267.6 356.5 464.5 ALTITUDE
0952 0837 0808 0753 0742 0735 0729 0723 0718 0713 0708 L.T.(HRS.)


IDG-4.-6 REV. NO. 1840.0
DAY OF ORBIT 3/29/75
RATIO
1.75
1.00
0.25
PERIGEE
ALT(KM.)= 146.82
LONG(E)= 352.87
LAT(DEG.)= 28.85
GMT(SEC.)= 29041.3 (0804H)
LOCAL TIME 0735 (H)
IN SUN FROM 28291. TO 29791.
DENSITY
10^{-12}
10^{-13}
10^{-14}
KP=3+
F10.7=68.0
28291 28441 28591 28741 28891 29041 29191 29341 29491 29641 29791 GMT(SEC.)
79.5 70.7 60.8 50.4 39.7 28.8 18.0 7.2 -3.5 -13.9 -23.9 LAT(GEOD.)
32.9 11.6 3.3 358.7 355.4 352.9 350.7 348.7 346.8 344.9 342.9 LONG(E)
73.0 69.4 62.2 53.4 43.8 33.7 23.5 13.2 3.0 -6.9 -16.6 GEOM. LAT.
453.5 350.1 264.6 200.4 160.4 146.8 160.5 201.2 267.2 355.7 463.2 ALTITUDE
1003 0840 0809 0753 0743 0735 0729 0723 0718 0713 0708 L.T.(HRS.)


IDG-4.-6 REV. NO. 1841.0
DAY OF ORBIT 3/29/75
RATIO
1.75
1.00
0.25
PERIGEE
ALT(KM.)= 146.83
LONG(E)= 326.15
LAT(DEG.)= 29.05
GMT(SEC.)= 35455.2 (0950H)
LOCAL TIME 0735 (H)
IN SUN FROM 34705. TO 36205.
DENSITY
10^{-12}
10^{-13}
10^{-14}
KP=3+
F10.7=68.0
34705 34855 35005 35155 35305 35455 35605 35755 35905 36055 36205 GMT(SEC.)
79.7 70.9 61.0 50.6 39.9 29.0 18.2 7.4 -3.3 -13.7 -23.7 LAT(GEOD.)
6.9 345.1 336.7 332.0 328.7 326.2 324.0 322.0 320.1 318.2 316.2 LONG(E)
76.7 74.6 67.6 58.5 48.5 38.2 27.7 17.2 6.8 -3.4 -13.3 GEOM. LAT.
453.1 349.9 264.5 200.3 160.4 146.8 160.5 201.1 267.0 355.5 462.9 ALTITUDE
1006 0841 0810 0753 0743 0735 0729 0723 0718 0713 0708 L.T.(HRS.)

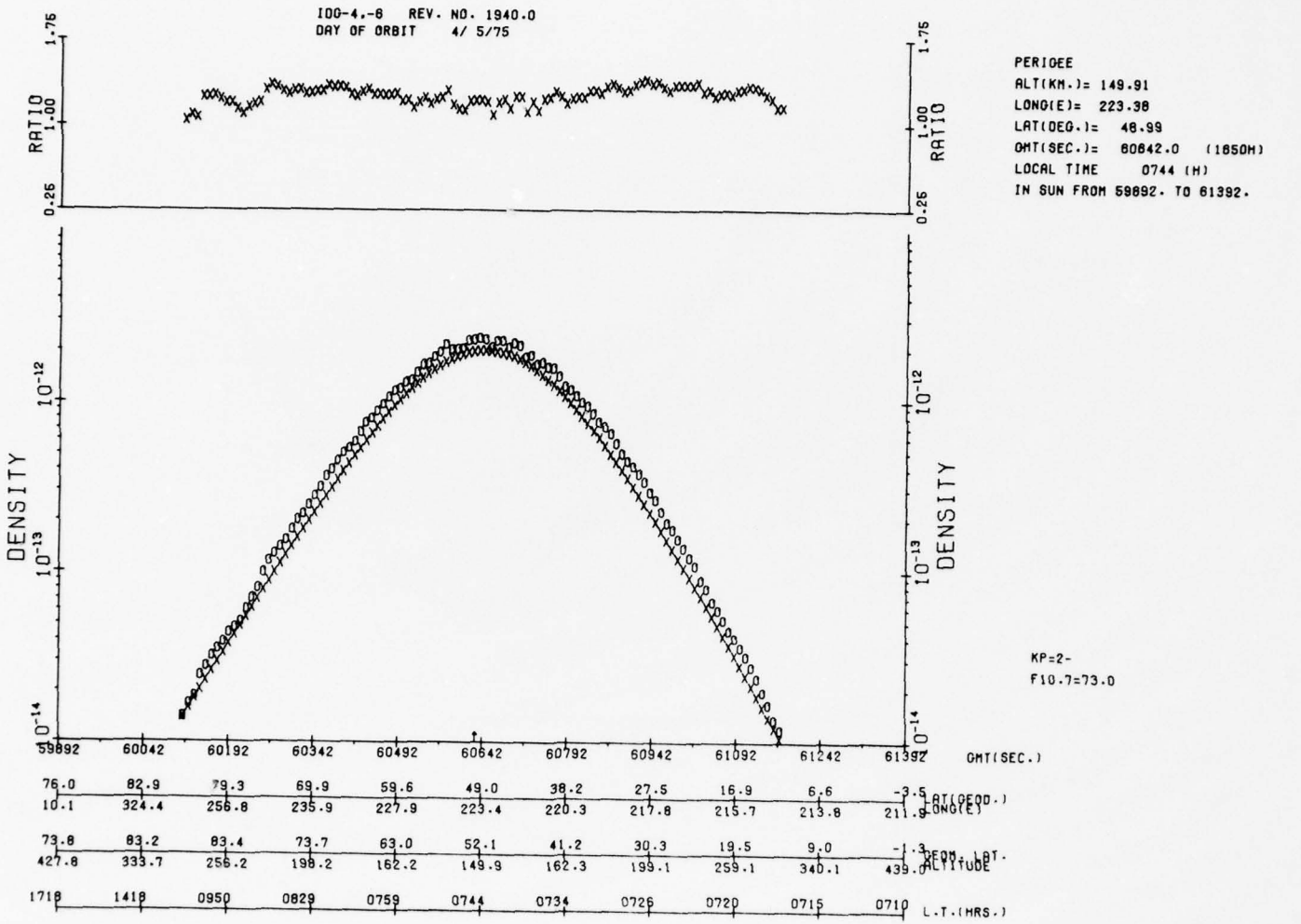

IDG-4,-6 REV. NO. 1844.0
DAY OF ORBIT 3/29/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 148.84
LONG(E)= 246.04
LAT(DEG.)= 29.64
GMT(SEC.)= 54689.6 (1511H)
LOCAL TIME 0735 (H)
IN SUN FROM 53940. TO 55440.
KP=4+
F10.7=68.0
53940 54090 54240 54390 54540 54690 54840 54990 55140 55290 55440 GMT(SEC.)
80.1 71.5 61.6 51.2 40.5 29.6 18.8 8.0 -2.7 -13.1 -23.1 LAT(GEOD.)
288.7 265.6 256.8 251.9 248.6 246.0 243.8 241.8 239.9 238.0 236.1 LONG(E)
88.3 80.5 70.1 59.4 48.4 37.4 26.3 15.4 4.6 -6.0 -16.2 GEOM. LAT.
452.2 349.3 264.1 200.2 160.4 148.8 160.5 201.0 266.7 355.0 462.1 ALTITUDE
1013 0843 0811 0754 0743 0735 0729 0723 0718 0713 0708 L.T.(HRS.)

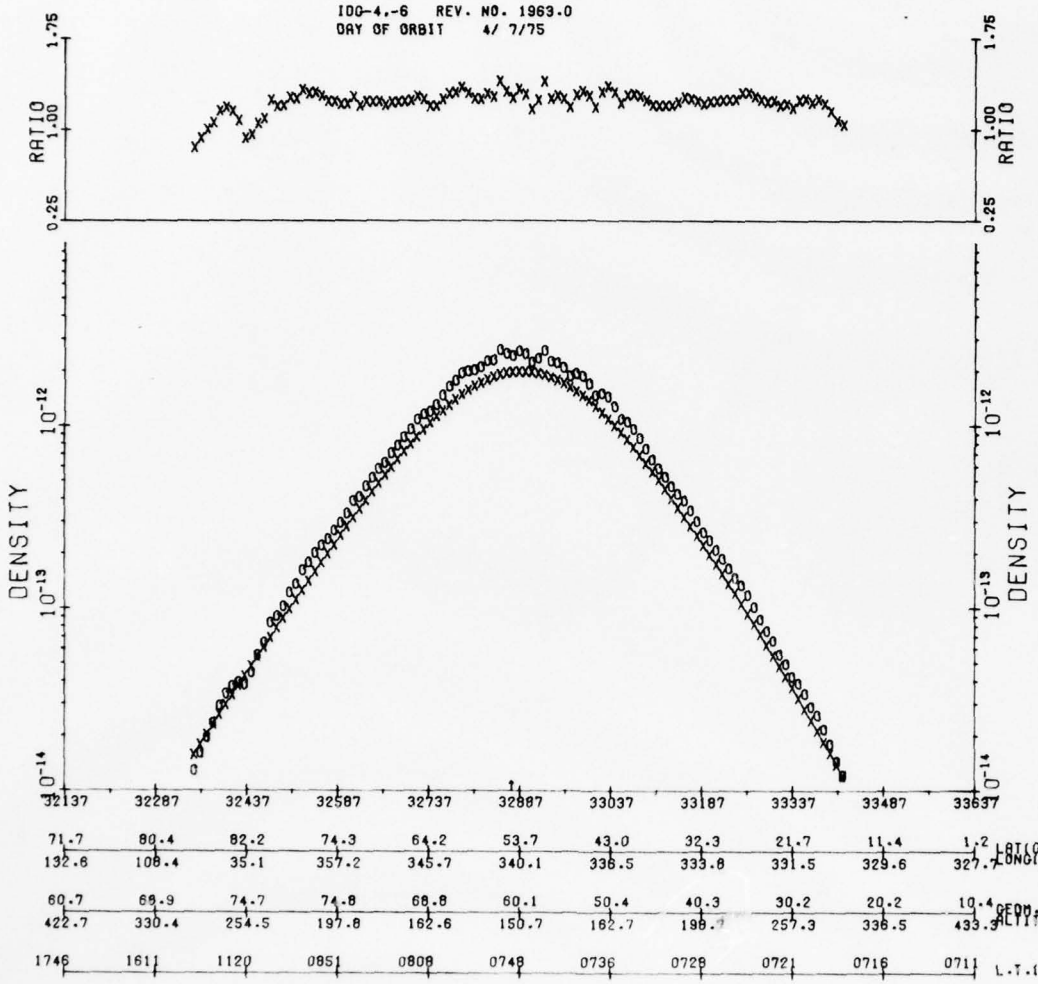

IDG-4.-6 REV. NO. 1845.0
DAY OF ORBIT 3/29/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 146.85
LONG(E)= 219.35
LAT(DEG.)= 29.84
GMT(SEC.)= 61098.7 (1658H)
LOCAL TIME 0735 (H)
IN SUN FROM 60349. TO 61849.
KP=3+
F10.7=68.0
60349 60499 60649 60799 60949 61099 61249 61399 61549 61699 61849
GMT(SEC.)
80.3 71.7 61.8 51.4 40.7 29.8 19.0 8.2 -2.6 -12.9 -22.9
263.0 239.1 230.2 225.3 221.9 219.4 217.1 215.1 213.2 211.3 209.4
LAT(GEOD.)
LONG(E)
84.5 75.7 65.4 54.7 43.8 32.8 21.8 10.8 0.0 -10.6 -20.8
451.8 349.0 284.0 200.1 160.4 148.9 160.5 200.9 266.6 354.7 461.8
GEOM. LAT.
ALTITUDE
1017 0844 0811 0754 0743 0735 0729 0723 0718 0713 0708
L.T.(HRS.)



PERIGEE
ALT(KM.)= 146.88
LONG(E)= 192.66
LAT(DEG.)= 30.04
GMT(SEC.)= 67507.1 (1845M)
LOCAL TIME 0735 (H)
IN SUN FROM 66757. TO 68257.

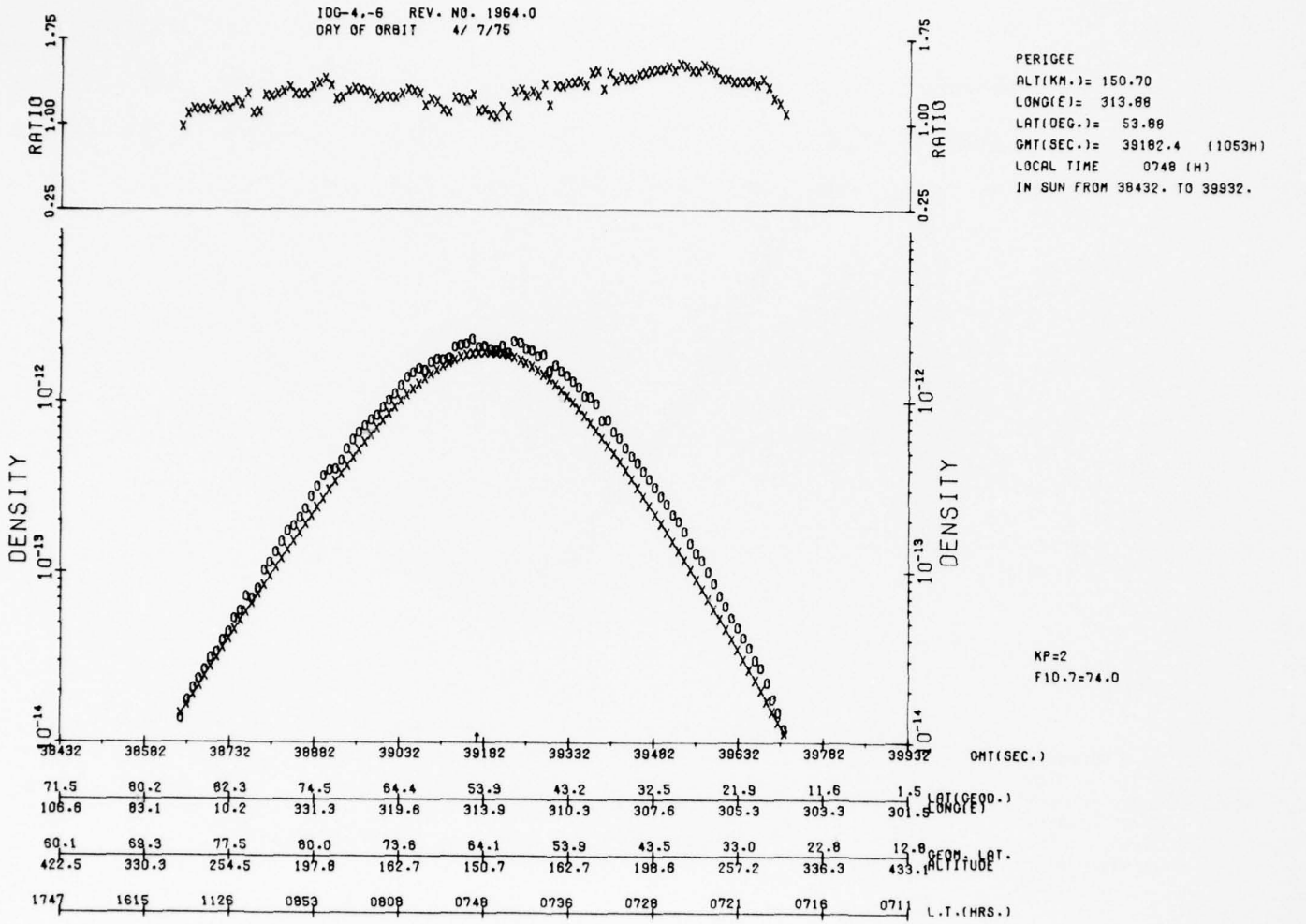
KP=3+
F10.7=68.0

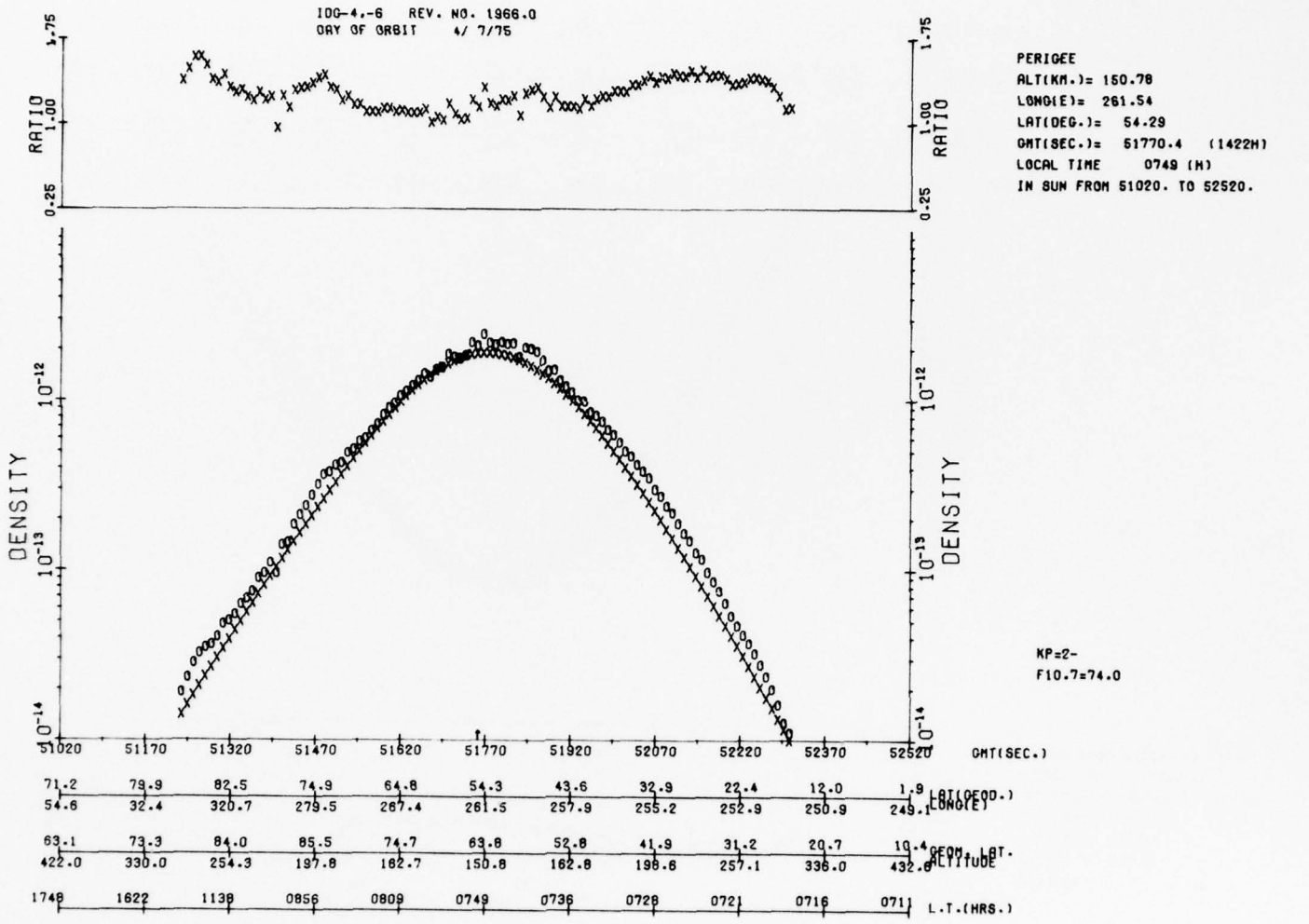

IDO-4.-6 REV. NO. 1940.0
DAY OF ORBIT 4/ 5/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 149.91
LONG(E)= 223.38
LAT(DEG.)= 48.99
GMT(SEC.)= 60842.0 (1650M)
LOCAL TIME 0744 (M)
IN SUN FROM 59892. TO 61392.
KP=2-
F10.7=73.0
59892 60042 60192 60342 60492 60642 60792 60942 61092 61242 61392 GMT(SEC.)
76.0 82.9 79.3 69.9 59.6 49.0 38.2 27.5 16.9 6.6 -3.5 LAT(DEGD.)
10.1 324.4 256.8 235.9 227.9 223.4 220.3 217.8 215.7 213.8 211.9 LONG(E)
73.8 83.2 83.4 73.7 63.0 52.1 41.2 30.3 19.5 9.0 -1.3 GEOM. LAT.
427.8 333.7 256.2 198.2 162.2 149.9 162.3 199.1 259.1 340.1 439.0 ALTITUDE
1718 1418 0950 0829 0759 0744 0734 0726 0720 0715 0710 L.T.(HRS.)



PERIGEE
ALT(KM.)= 150.86
LONG(E)= 340.06
LAT(DEG.)= 53.67
GMT(SEC.)= 32887.1 (0908H)
LOCAL TIME 0748 (H)
IN SUN FROM 32137. TO 33637.

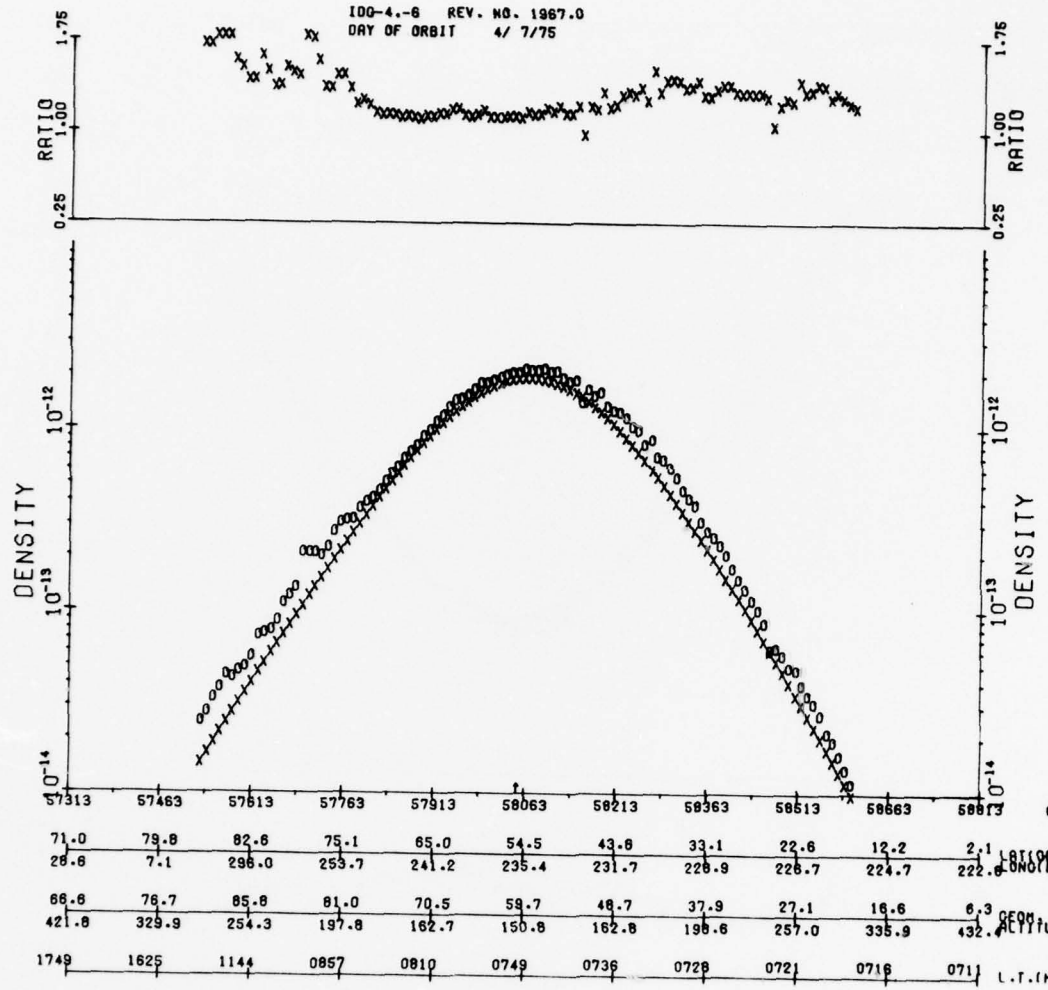
KP=3-
F10.7=74.0


IDG-4,-6 REV. NO. 1964.0
DAY OF ORBIT 4/ 7/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 150.70
LONG(E)= 313.88
LAT(DEG.)= 53.88
GMT(SEC.)= 39182.4 (1053H)
LOCAL TIME 0748 (H)
IN SUN FROM 38432. TO 39932.
KP=2
F10.7=74.0
38432 38582 38732 38882 39032 39182 39332 39482 39632 39782 39932 GMT(SEC.)
71.5 80.2 82.3 74.5 64.4 53.9 43.2 32.5 21.9 11.6 1.5 LAT(GEOD.)
106.8 83.1 10.2 331.3 319.8 313.9 310.3 307.6 305.3 303.3 301.5 LONG(E)
60.1 68.3 77.5 80.0 73.6 64.1 53.9 43.5 33.0 22.8 12.8 GEOM. LAT.
422.5 330.3 254.5 197.8 162.7 150.7 162.7 198.6 257.2 336.3 433.1 ALTITUDE
1747 1615 1126 0853 0808 0748 0736 0728 0721 0716 0711 L.T.(HRS.)



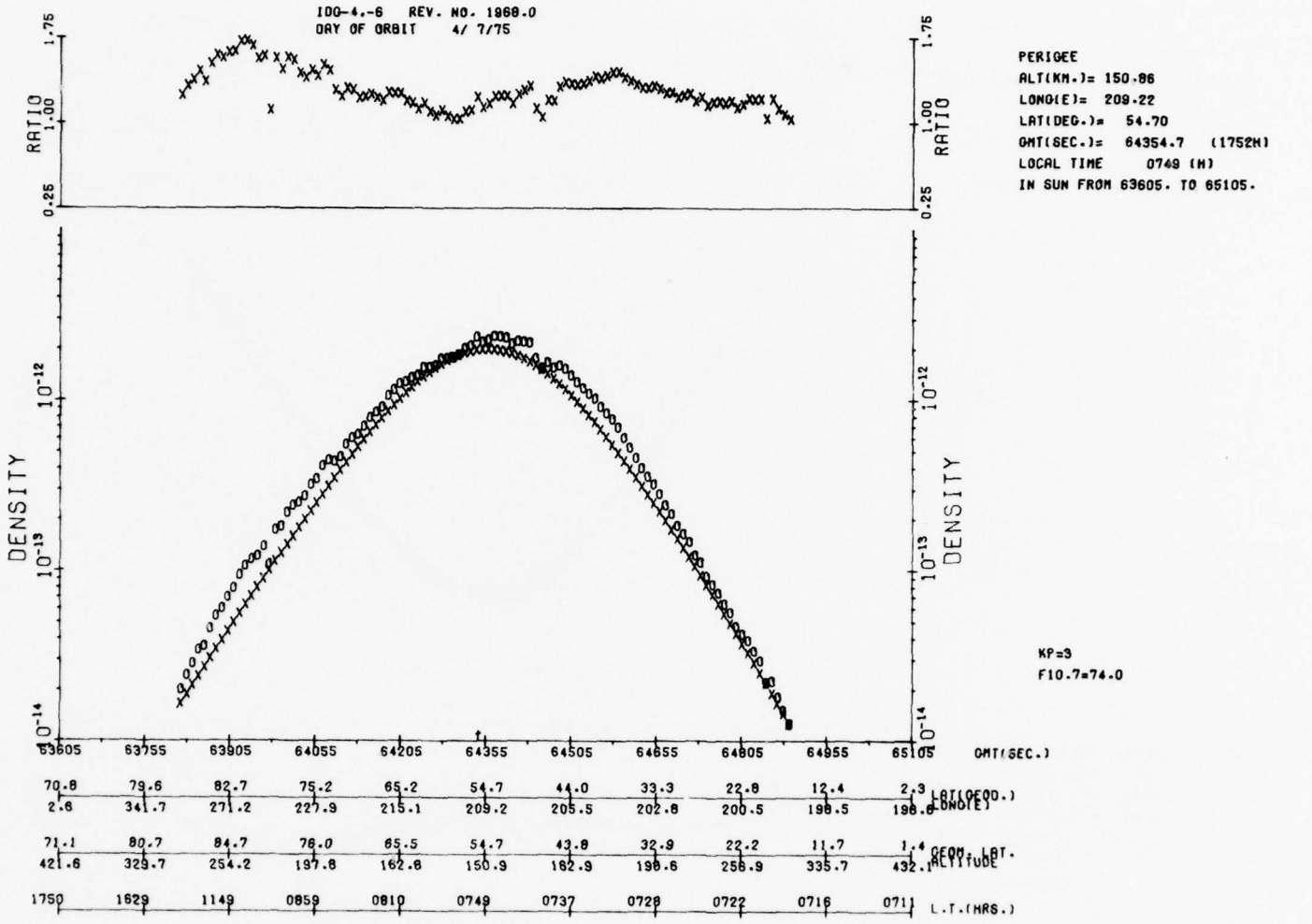
PERIGEE
ALT(KM.)= 150.78
LONG(E)= 261.54
LAT(DEG.)= 54.29
GMT(SEC.)= 51770.4 (1422H)
LOCAL TIME 0749 (H)
IN SUN FROM 51020. TO 52520.

KP=2-
F10.7=74.0

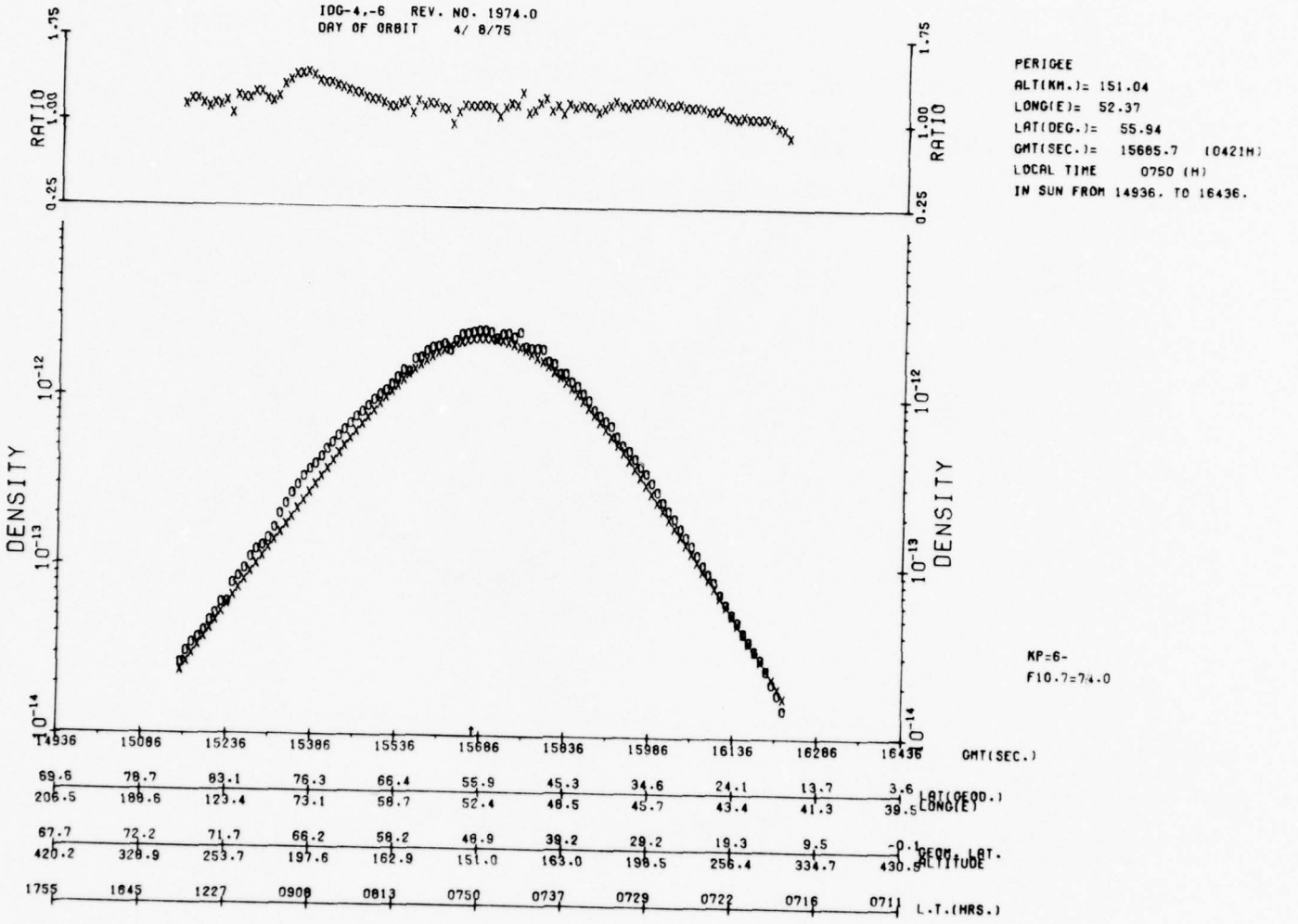


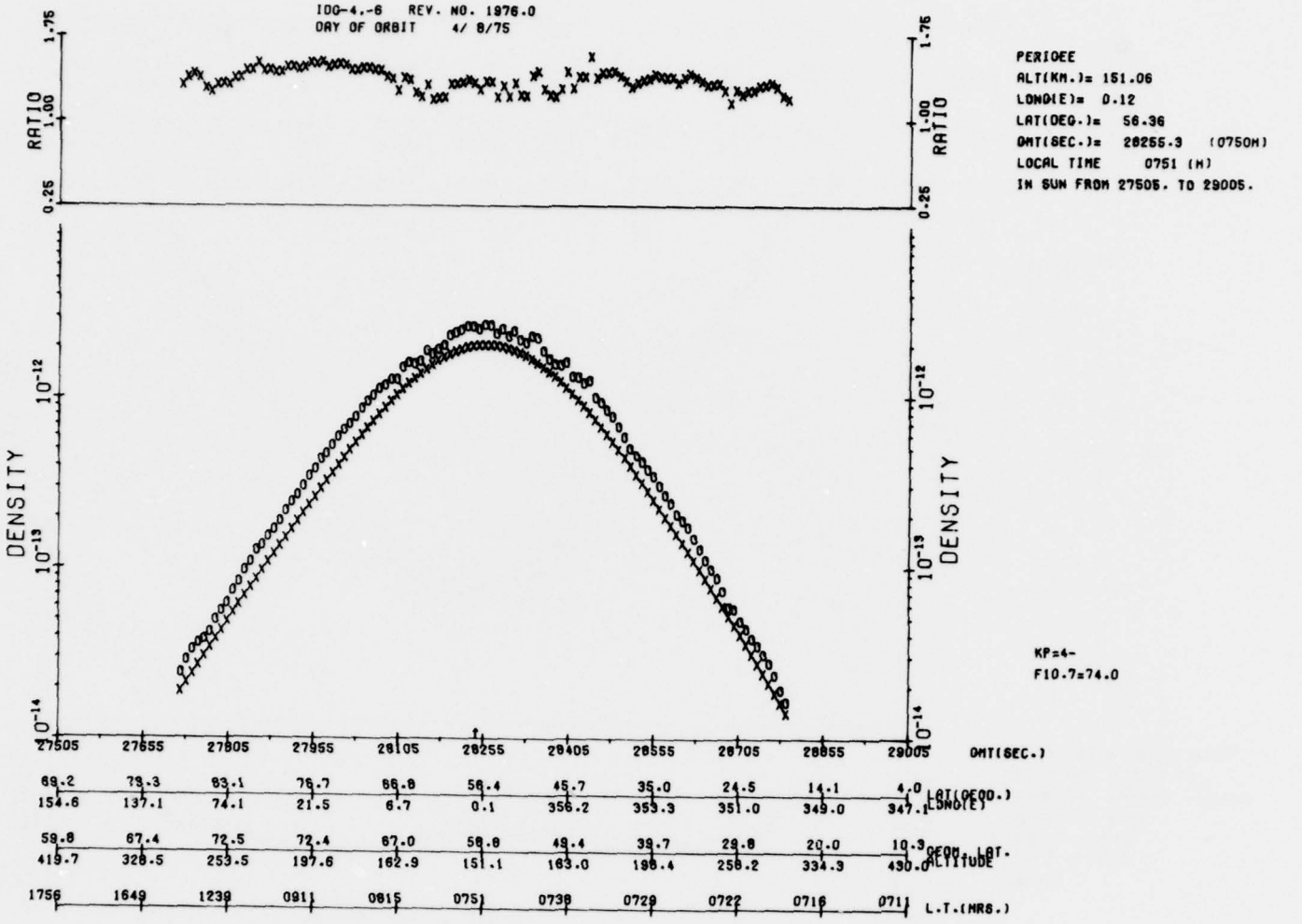
PERIGEE
ALT(KM.)= 150.82
LONG(E)= 235.38
LAT(DEG.)= 54.48
GMT(SEC.)= 58063.0 (1607H)
LOCAL TIME 0749 (H)
IN SUN FROM 57313. TO 58813.

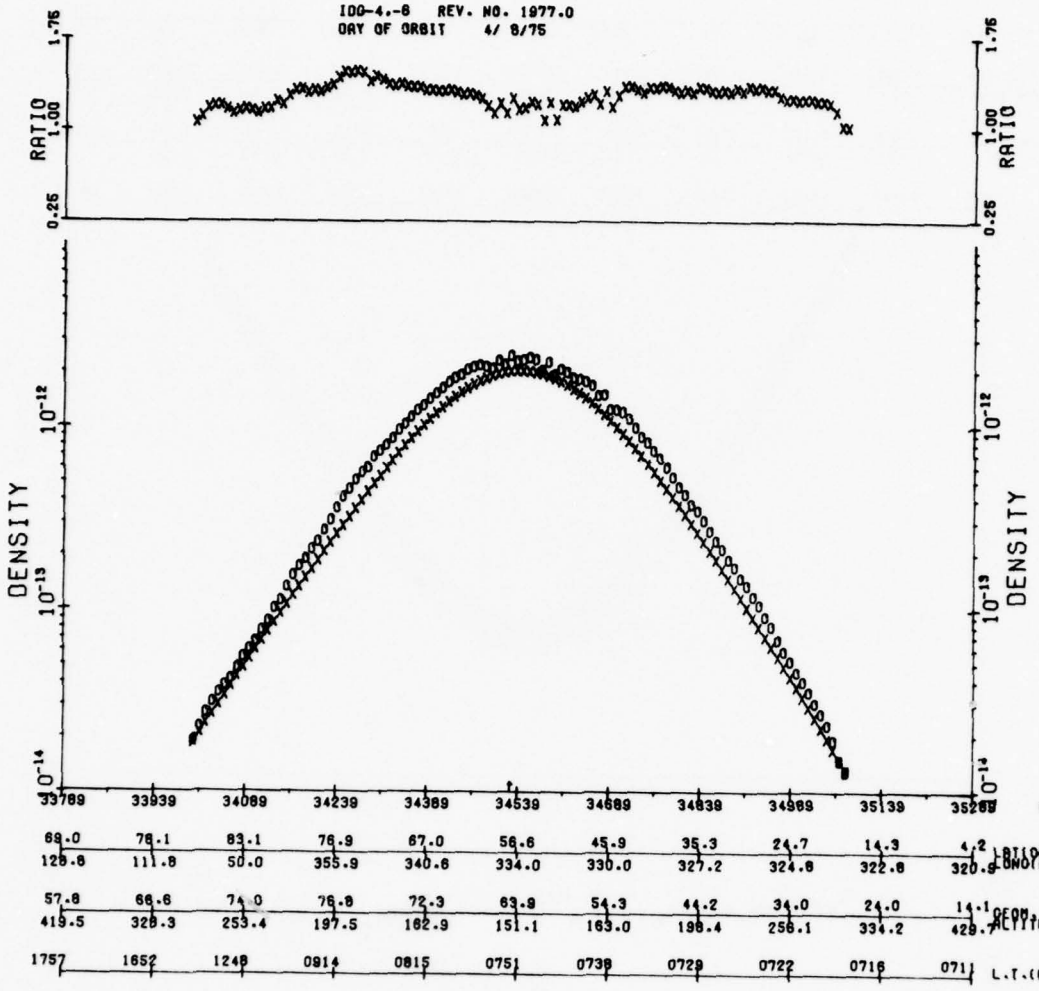
KP=2-
F10.7=74.0


IDQ-4.-6 REV. NO. 1968.0
DAY OF ORBIT 4/ 7/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 150.86
LONG(E)= 209.22
LAT(DEG.)= 54.70
GMT(SEC.)= 64354.7 (1752H)
LOCAL TIME 0749 (H)
IN SUN FROM 63605. TO 65105.
KP=3
F10.7=74.0
63605 63755 63905 64055 64205 64355 64505 64655 64805 64955 65105 GMT(SEC.)
70.8 79.6 82.7 75.2 65.2 54.7 44.0 33.3 22.8 12.4 2.3 LAT(GEOD.)
2.6 341.7 271.2 227.9 215.1 209.2 205.5 202.8 200.5 198.5 196.8 LONG(E)
71.1 80.7 84.7 78.0 65.5 54.7 43.8 32.9 22.2 11.7 1.4 GEOM. LAT.
421.6 329.7 254.2 197.8 162.8 150.9 162.9 198.6 256.9 335.7 432.1 ALTITUDE
1750 1629 1149 0859 0810 0749 0737 0728 0722 0716 0711 L.T.(HRS.)

III

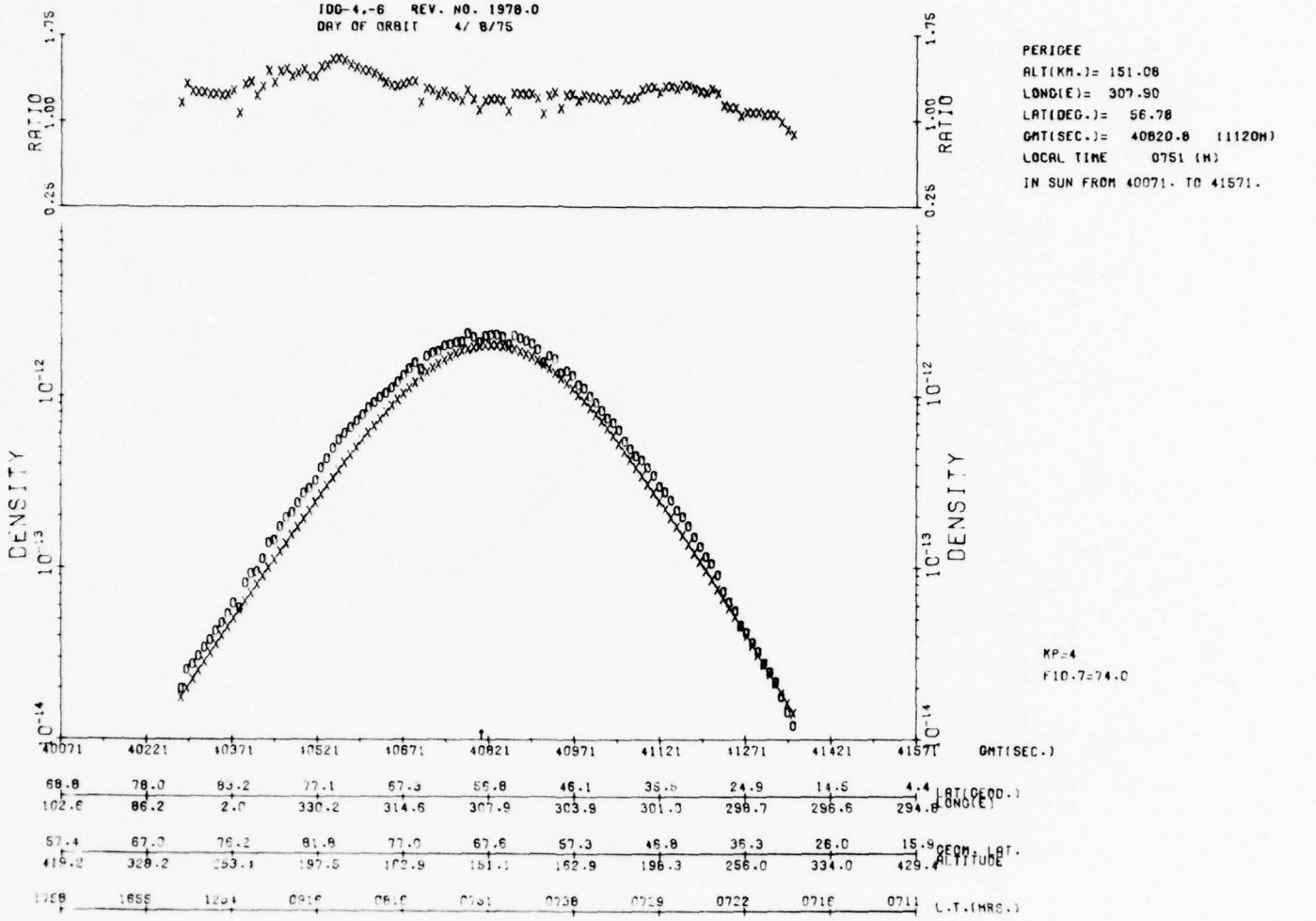

IDG-4,-6 REV. NO. 1974.0
DAY OF ORBIT 4/ 8/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 151.04
LONG(E)= 52.37
LAT(DEG.)= 55.94
GMT(SEC.)= 15685.7 (0421H)
LOCAL TIME 0750 (H)
IN SUN FROM 14936. TO 16436.
KP=6-
F10.7=74.0
14936 15086 15236 15386 15536 15686 15836 15986 16136 16286 16436 GMT(SEC.)
69.6 78.7 83.1 76.3 66.4 55.9 45.3 34.6 24.1 13.7 3.6 LAT(DEGD.)
206.5 188.6 123.4 73.1 58.7 52.4 48.5 45.7 43.4 41.3 39.5 LONG(E)
67.7 72.2 71.7 66.2 58.2 48.9 39.2 29.2 19.3 9.5 -0.1 DEGR. LAT.
420.2 328.9 253.7 197.6 162.9 151.0 163.0 198.5 256.4 334.7 430.9 ALTITUDE
1755 1645 1227 0908 0813 0750 0737 0729 0722 0716 0711 L.T.(HRS.)

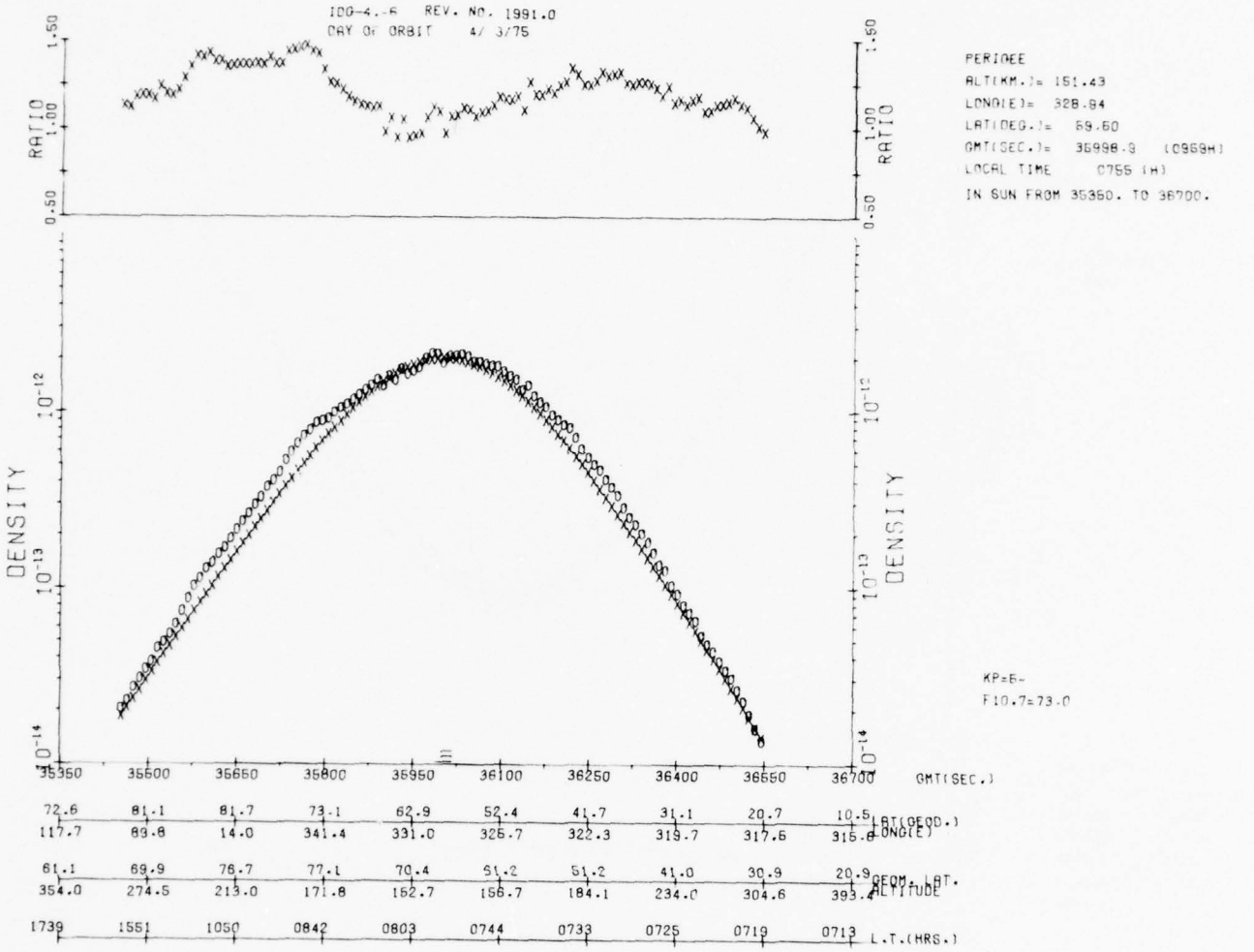

IDG-4.-6 REV. NO. 1976.0
DAY OF ORBIT 4/ 8/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 151.06
LONG(E)= 0.12
LAT(DEG.)= 56.36
GMT(SEC.)= 28255.3 (0750H)
LOCAL TIME 0751 (H)
IN SUN FROM 27505. TO 29005.
KP=4-
F10.7=74.0
27505 27655 27805 27955 28105 28255 28405 28555 28705 28855 29005 GMT(SEC.)
69.2 79.3 83.1 76.7 66.8 56.4 45.7 35.0 24.5 14.1 4.0 LAT(DEGD.)
154.6 137.1 74.1 21.5 6.7 0.1 356.2 353.3 351.0 349.0 347.1 LONG(E)
59.8 67.4 72.5 72.4 67.0 58.8 48.4 39.7 29.8 20.0 10.3 GEOM. LAT.
419.7 328.5 253.5 197.6 162.9 151.1 163.0 198.4 258.2 334.3 430.0 ALTITUDE
1756 1649 1238 0911 0815 0751 0738 0729 0722 0716 0711 L.T.(HRS.)

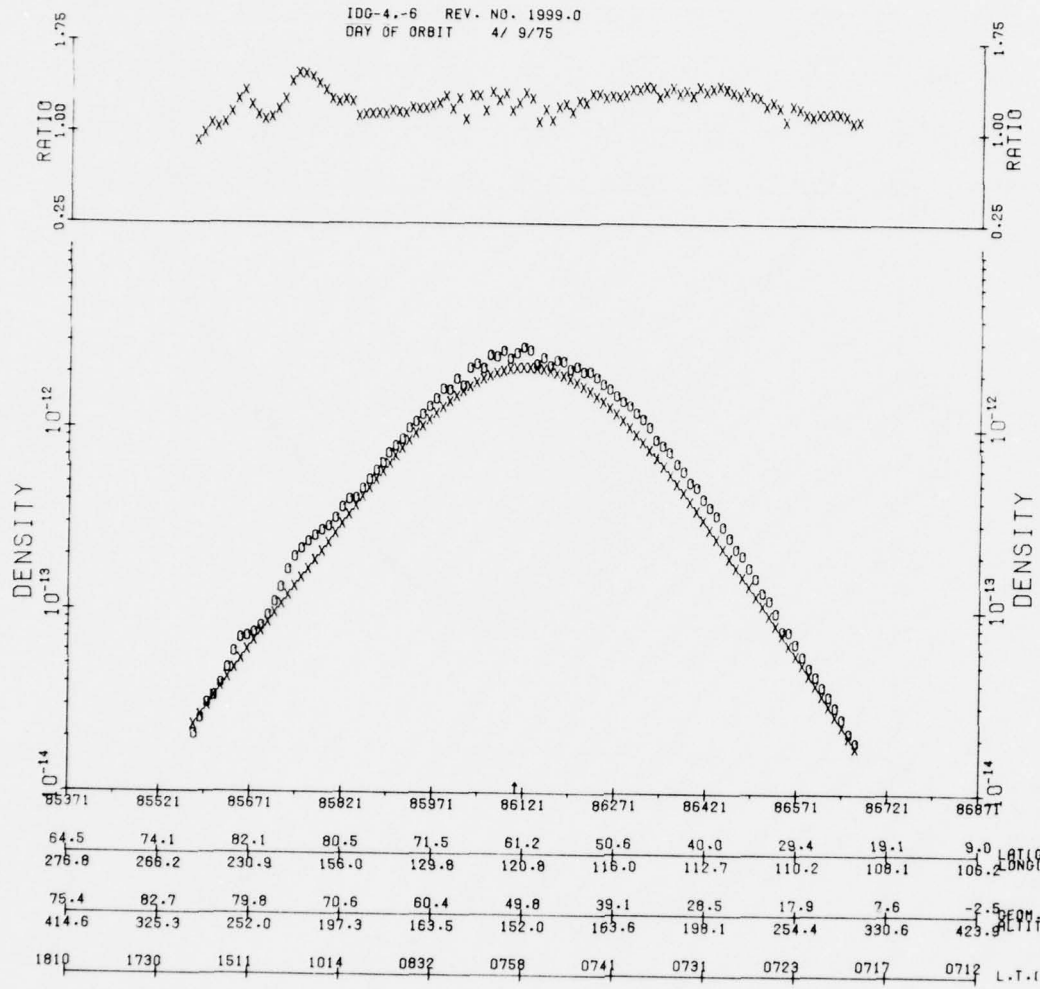


PERIGEE
ALT(KM.)= 151.07
LONG(E)= 334.01
LAT(DEG.)= 58.57
GMT(SEC.)= 34538.8 (0935H)
LOCAL TIME 0751 (H)
IN SUN FROM 33789. TO 35289.

KP=4-
F10.7=74.0

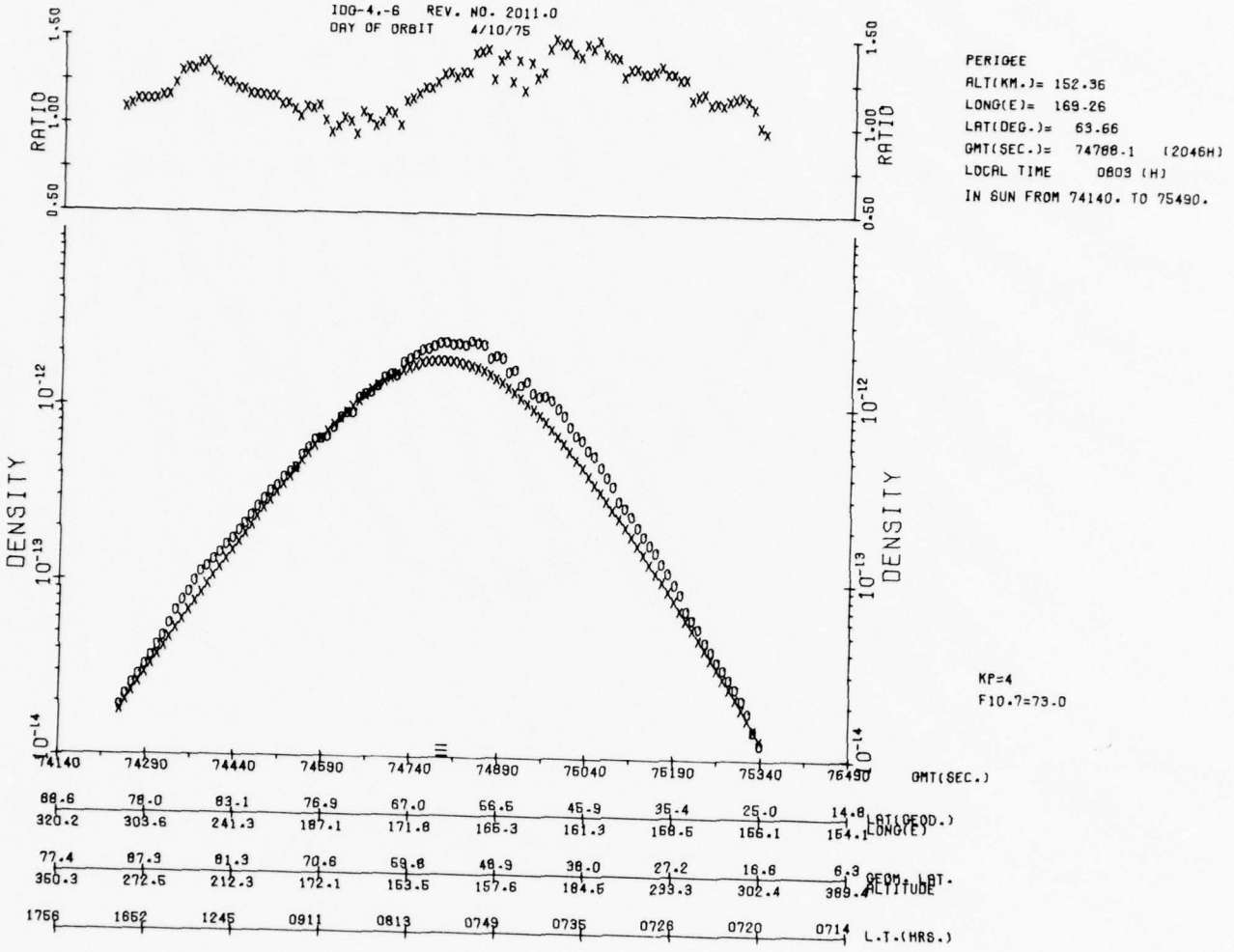

IDG-4.-6 REV. NO. 1978.0
DAY OF ORBIT 4/ 8/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 151.08
LONG(E)= 307.90
LAT(DEG.)= 56.78
GMT(SEC.)= 40820.8 (1120M)
LOCAL TIME 0751 (H)
IN SUN FROM 40071. TO 41571.
KP=4
F10.7=74.0
40071 40221 40371 40521 40671 40821 40971 41121 41271 41421 41571 GMT(SEC.)
68.8 78.0 83.2 77.1 67.3 56.8 46.1 35.5 24.9 14.5 4.4 LAT(GEOD.)
102.6 86.2 2.0 330.2 314.6 307.9 303.9 301.0 298.7 296.6 294.8 LONG(E)
57.4 67.0 76.2 81.8 77.0 67.6 57.3 46.8 36.3 26.0 15.9 GEOM. LAT.
419.2 328.2 253.1 197.5 162.9 151.1 162.9 196.3 256.0 334.0 429.4 ALTITUDE
1758 1655 1254 0916 0816 0751 0738 0729 0722 0716 0711 L.T.(HRS.)


IDG-4.-6 REV. NO. 1991.0
DAY OF ORBIT 4/ 3/75
RATIO
1.50
1.00
0.50
PERIGEE
ALT(KM.)= 151.43
LONG(E)= 328.84
LAT(DEG.)= 69.60
GMT(SEC.)= 36998.9 (0968H)
LOCAL TIME 0755 (H)
IN SUN FROM 35350. TO 36700.
DENSITY
10^{-12}
10^{-13}
10^{-14}
KP=6-
F10.7=73.0
35350 35500 35650 35800 35950 36100 36250 36400 36550 36700 GMT(SEC.)
72.6 81.1 81.7 73.1 62.9 52.4 41.7 31.1 20.7 10.5 LAT(GEOD.)
117.7 89.8 14.0 341.4 331.0 326.7 322.3 319.7 317.6 315.6 LONG(E)
61.1 69.9 76.7 77.1 70.4 51.2 51.2 41.0 30.9 20.9 GEOM. LAT.
354.0 274.5 213.0 171.8 152.7 158.7 184.1 234.0 304.6 393.4 ALTITUDE
1739 1551 1050 0842 0803 0744 0733 0725 0719 0713 L.T.(HRS.)



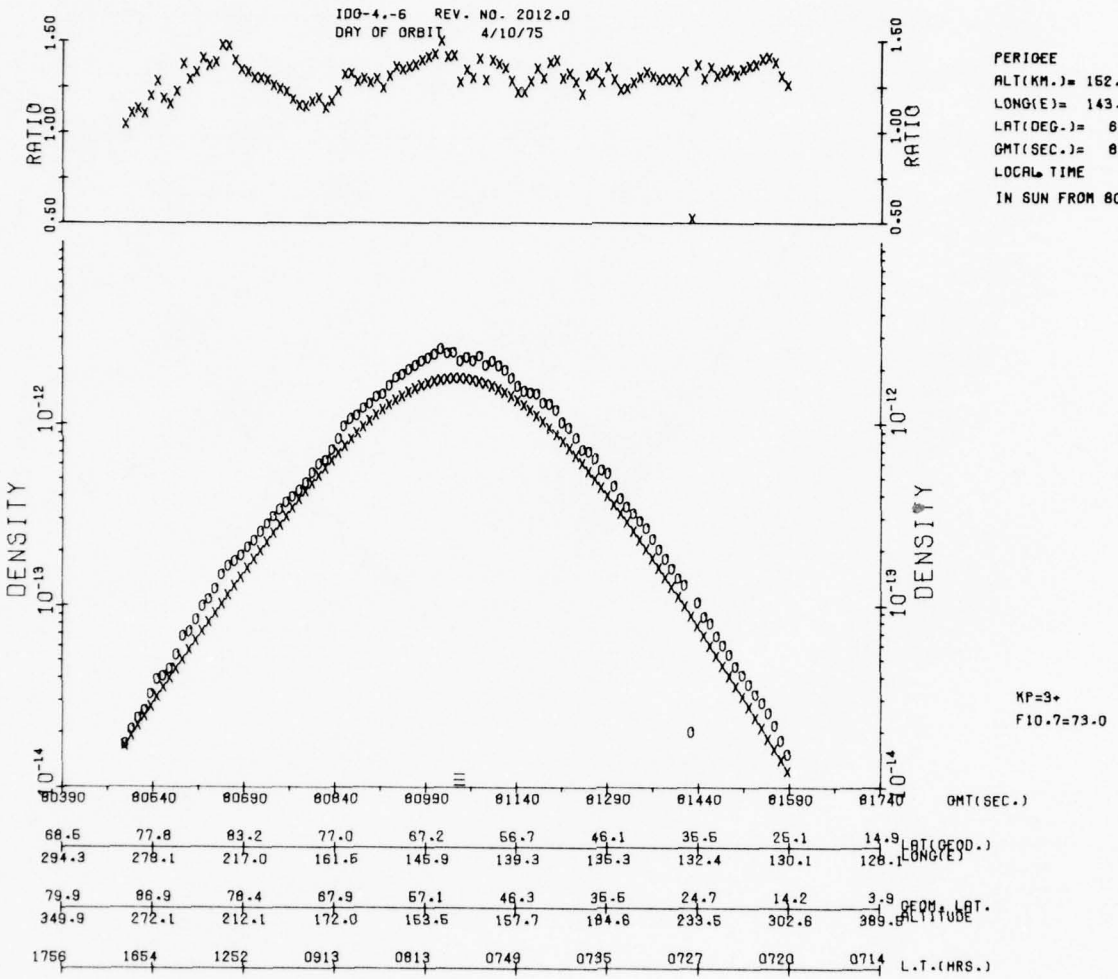
PERIGEE
ALT(KM.)= 151.98
LONG(E)= 120.81
LAT(DEG.)= 61.17
GMT(SEC.)= 86121.2 (2355H)
LOCAL TIME 0758 (H)
IN SUN FROM 85371. TO 86871.

KP=6
F10.7=73.0



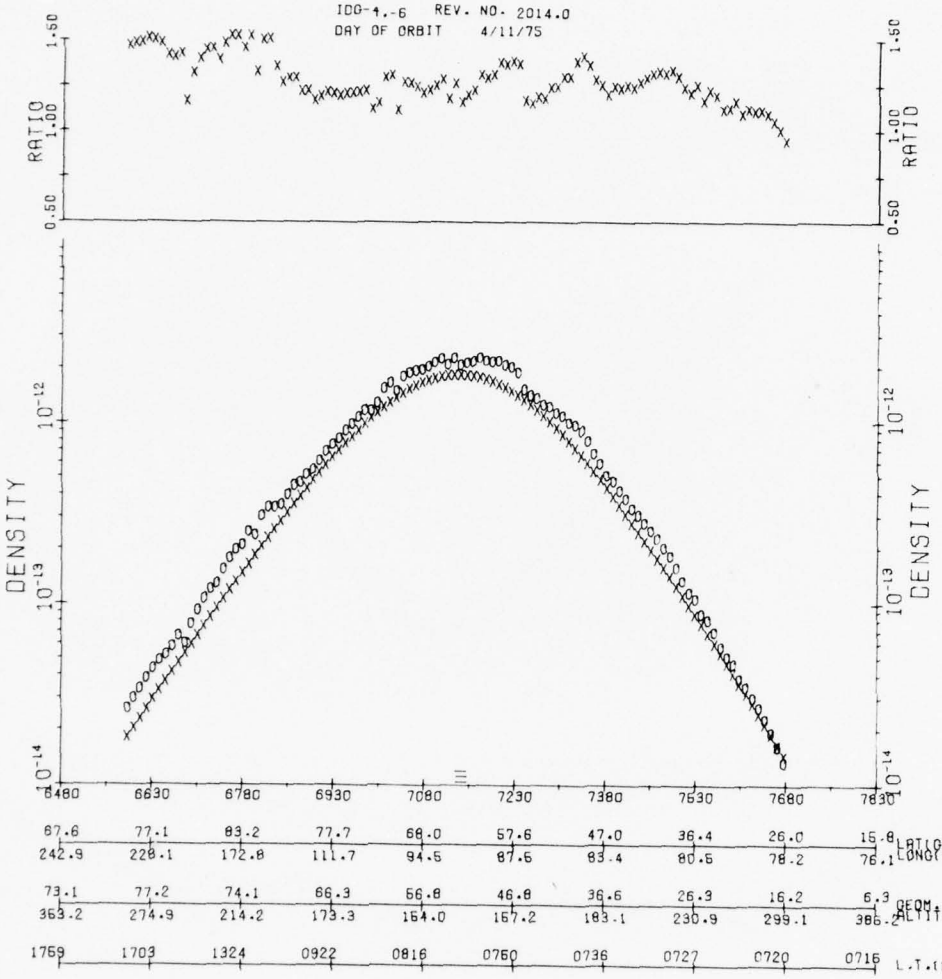
PERIGEE
ALT(KM.)= 152.36
LONG(E)= 169.26
LAT(DEG.)= 63.66
GMT(SEC.)= 74788.1 (2046H)
LOCAL TIME 0803 (H)
IN SUN FROM 74140. TO 75490.

KP=4
F10.7=73.0



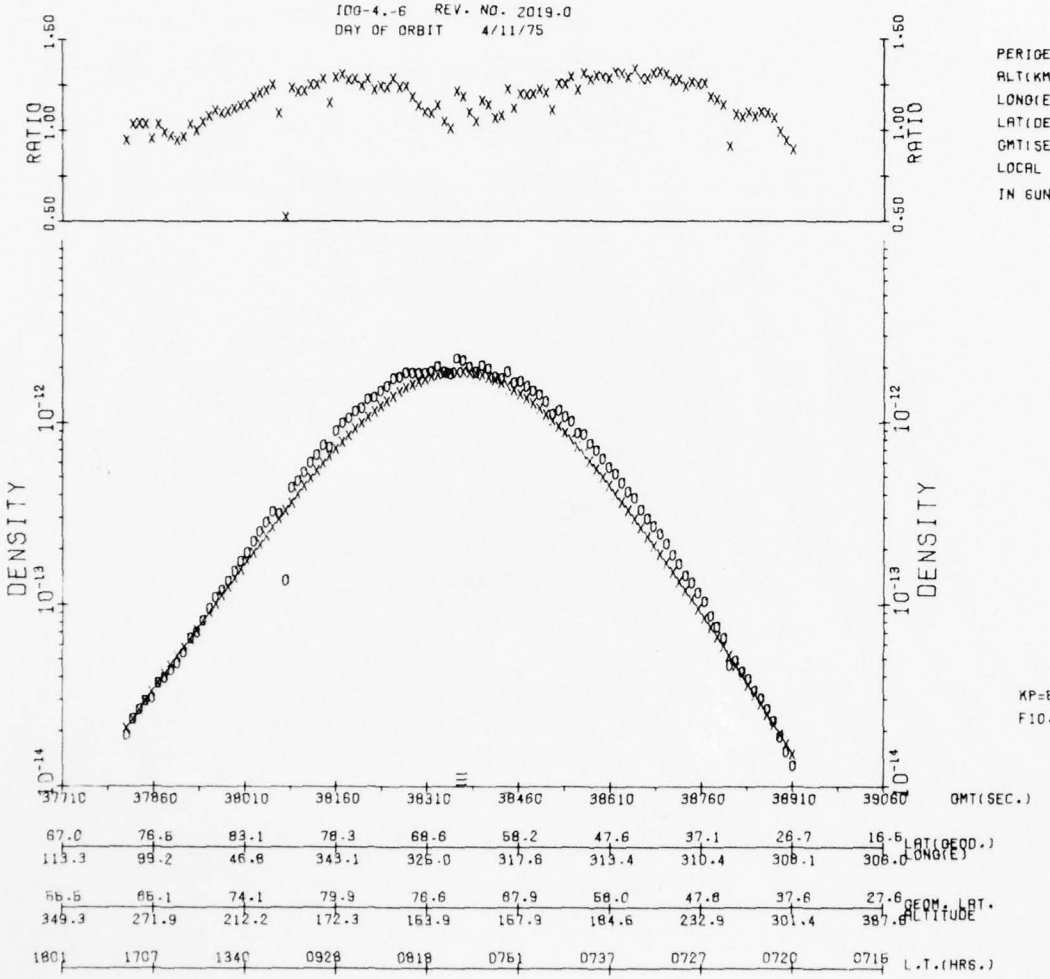
PERIGEE
ALT(KM.)= 152.40
LONG(E)= 143.33
LAT(DEG.)= 83.86
GMT(SEC.)= 81037.8 (2230H)
LOCAL TIME 0803 (H)
IN SUN FROM 80390. TO 81740.

KP=3+
F10.7=73.0



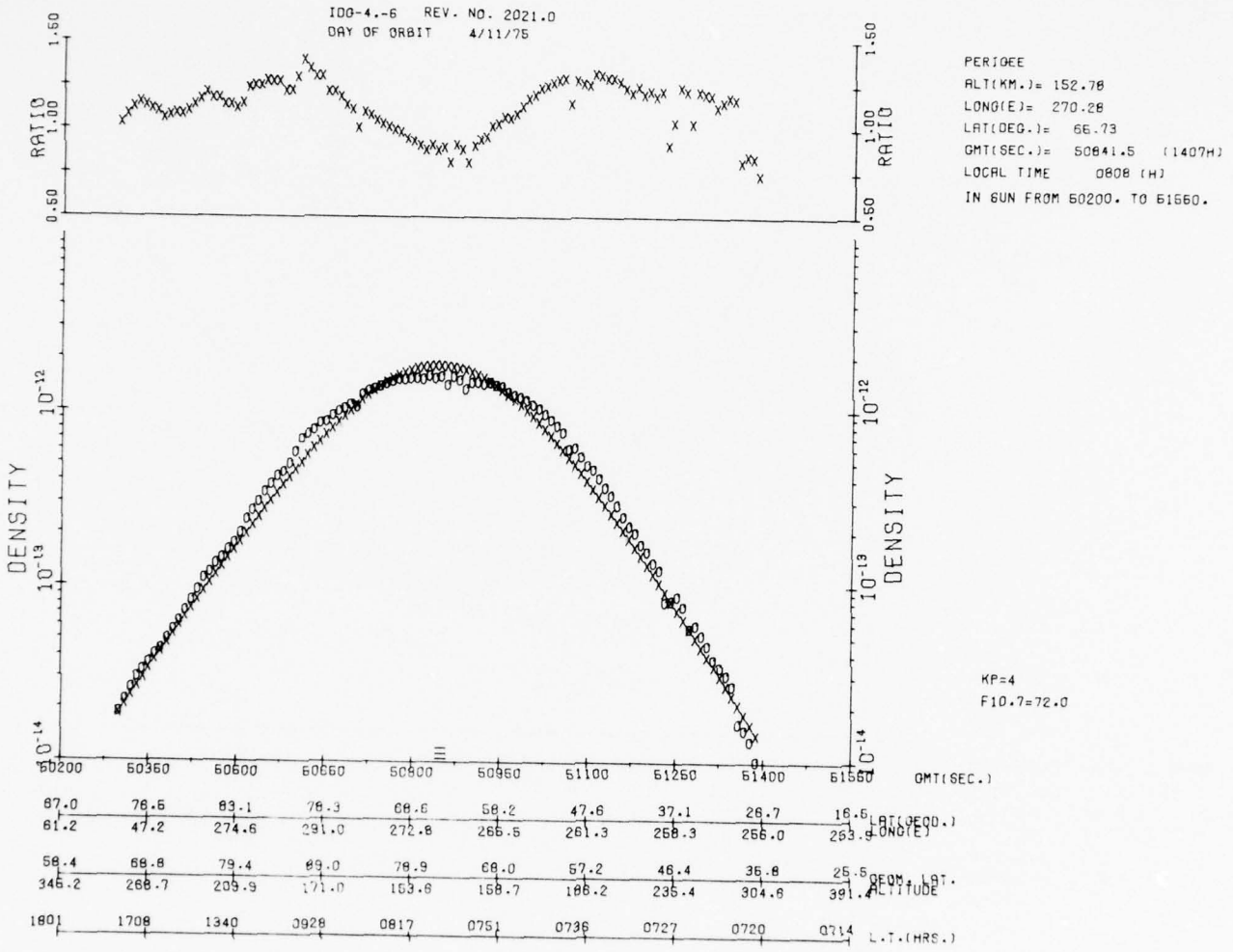
PERIGEE
ALT(KM.)= 152.49
LONG(E)= 91.49
LAT(DEG.)= 64.28
GMT(SEC.)= 7133.8 (0168H)
LOCAL TIME 0804 (H)
IN SUN FROM 6480. TO 7830.

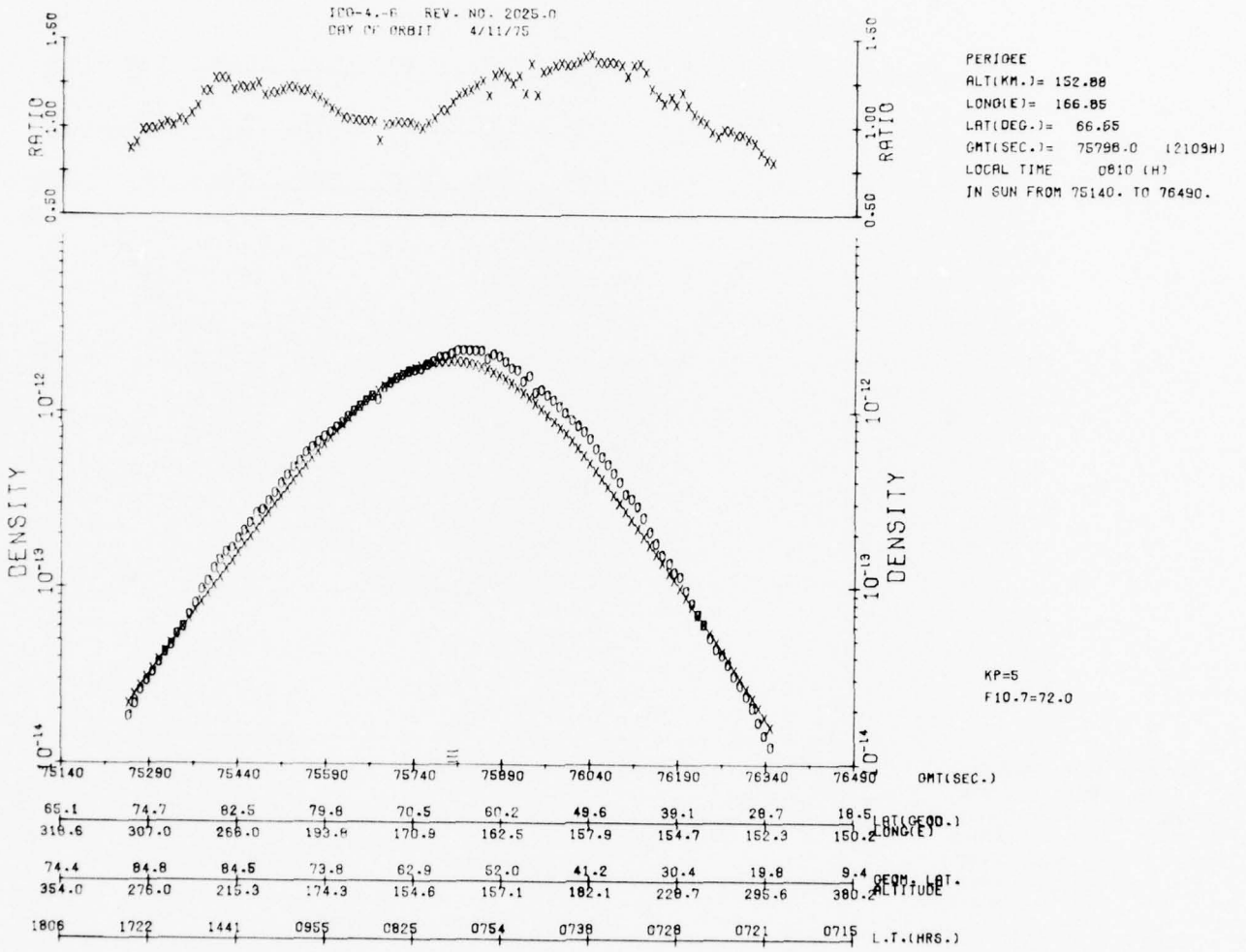
KP=4
F10.7=72.0

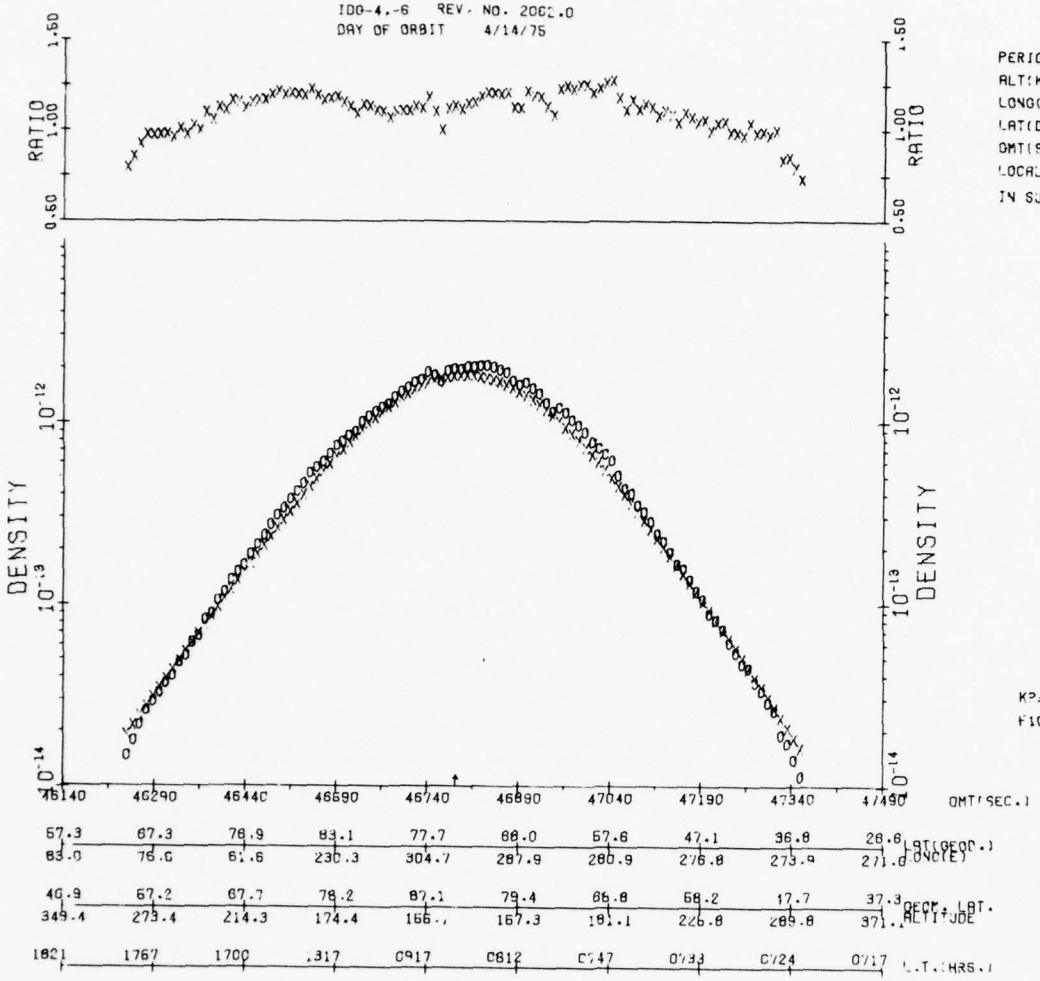


PERIGEE
ALT(KM.)= 152.70
LONG(E)= 322.02
LAT(DEG.)= 66.32
GMT(SEC.)= 38368.2 (1039H)
LOCAL TIME 0807 (H)
IN GUN FROM 37710. TO 39060.

KP=6
F10.7=72.0

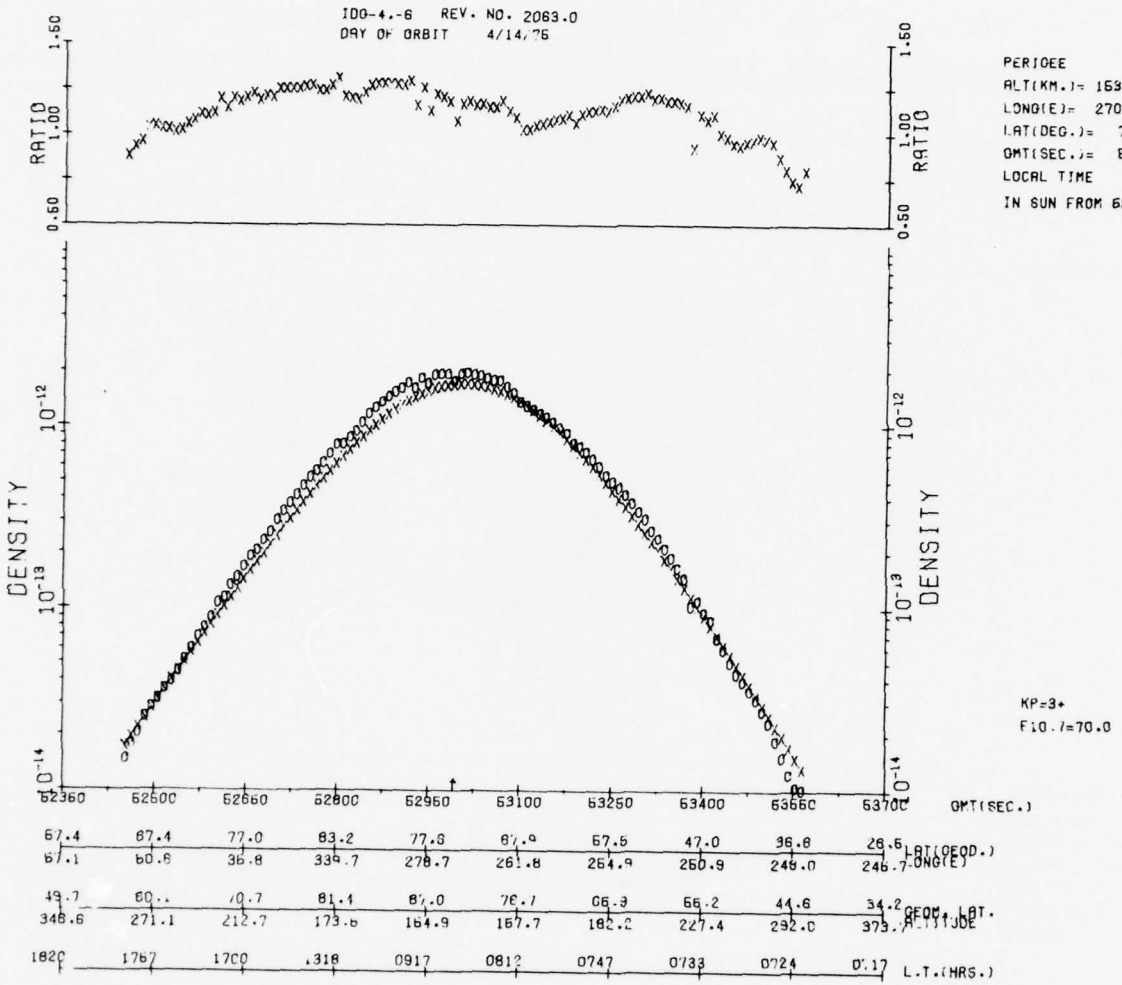

IDG-4.-6 REV. NO. 2021.0
DAY OF ORBIT 4/11/75
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 152.78
LONG(E)= 270.28
LAT(DEG.)= 66.73
GMT(SEC.)= 60841.5 (1407H)
LOCAL TIME 0808 (H)
IN SUN FROM 60200. TO 61660.
KP=4
F10.7=72.0
60200 60350 60600 60650 60800 60950 61100 61250 61400 61550 GMT(SEC.)
87.0 78.5 83.1 78.3 68.6 58.2 47.6 37.1 26.7 16.6 LAT(GEOD.)
61.2 47.2 274.6 291.0 272.8 266.5 261.3 258.3 256.0 253.9 LONG(E)
58.4 68.8 79.4 89.0 78.9 68.0 57.2 46.4 35.8 25.5 GEOM. LAT.
346.2 268.7 209.9 171.0 153.8 158.7 188.2 235.4 304.8 391.4 ALTITUDE
1801 1708 1340 0928 0817 0751 0736 0727 0720 0714 L.T.(HRS.)


ICO-4.-6 REV. NO. 2025.0
DAY OF ORBIT 4/11/75
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 152.88
LONG(E)= 166.85
LAT(DEG.)= 66.65
GMT(SEC.)= 75798.0 (2109H)
LOCAL TIME 0810 (H)
IN SUN FROM 75140. TO 76490.
KP=5
F10.7=72.0
75140 75290 75440 75590 75740 75890 76040 76190 76340 76490 GMT(SEC.)
65.1 74.7 82.5 79.8 70.5 60.2 49.6 39.1 28.7 18.5 LAT(GEOD.)
318.6 307.0 266.0 193.8 170.9 162.5 157.9 154.7 152.3 150.2 LONG(E)
74.4 84.8 84.5 73.8 62.9 52.0 41.2 30.4 19.8 9.4 GEOM. LAT.
354.0 276.0 215.3 174.3 154.6 157.1 182.1 228.7 295.6 380.2 ALTITUDE
1806 1722 1441 0955 0825 0754 0738 0728 0721 0715 L.T.(HRS.)



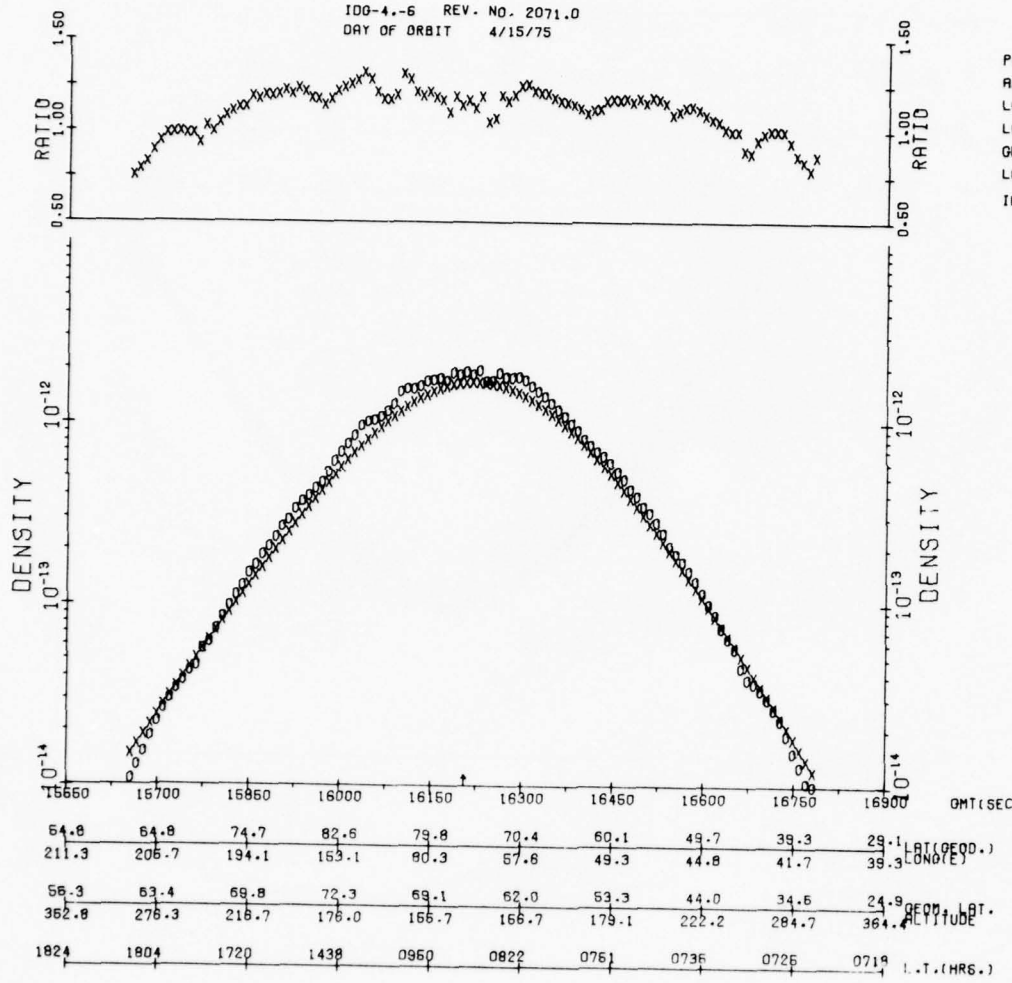
PERIGEE
ALT(KM.)= 153.39
LONG(E)= 296.68
LAT(DEG.)= 74.01
GMT(SEC.)= 46799.8 (1259H)
LOCAL TIME 0642 (H)
IN SUN FROM 46140. TO 47490.

KP=6-
F10.7=70.0



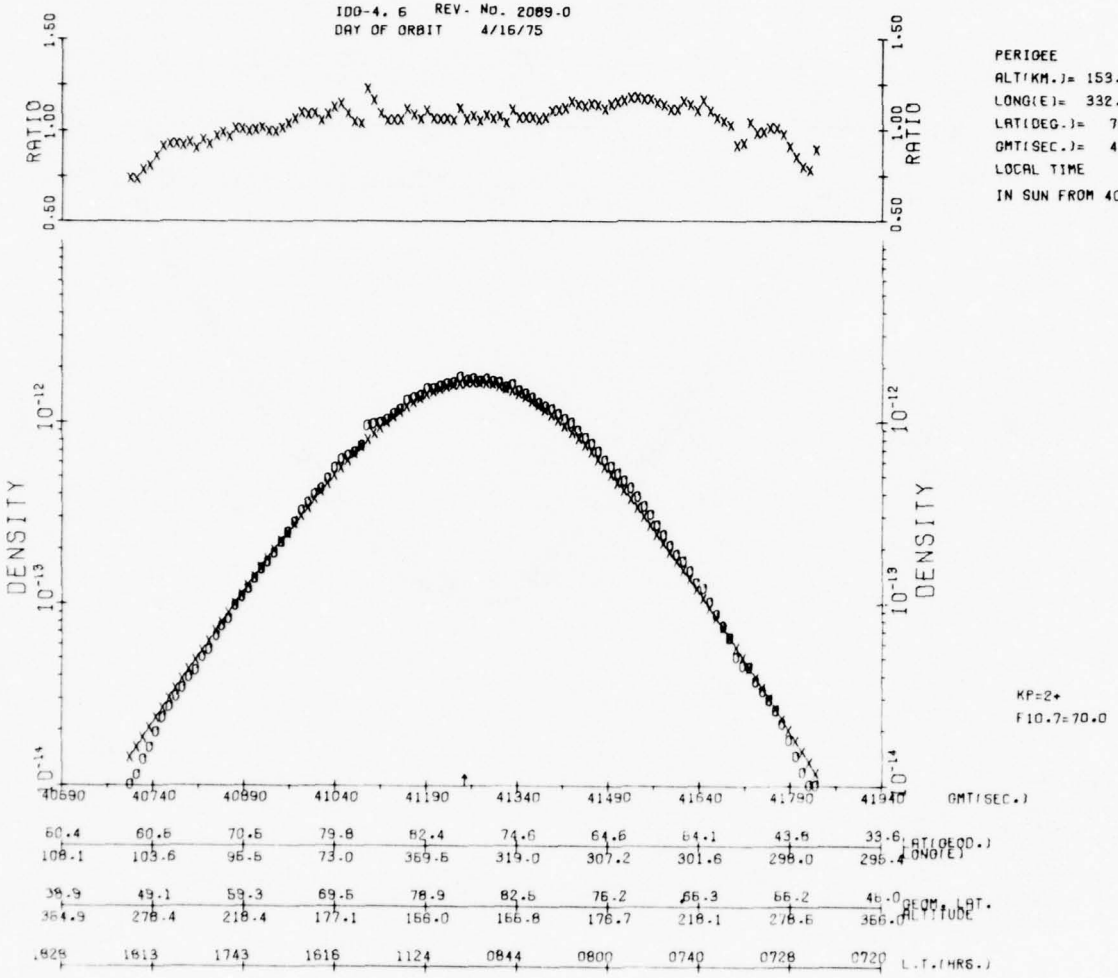
PERIGEE
ALT(KM.)= 163.40
LONG(E)= 270.26
LAT(DEG.)= 74.19
GMT(SEC.)= 63006.0 (1443H)
LOCAL TIME 0844 (H)
IN SUN FROM 62360. TO 63700.

KP=3+
F10.7=70.0



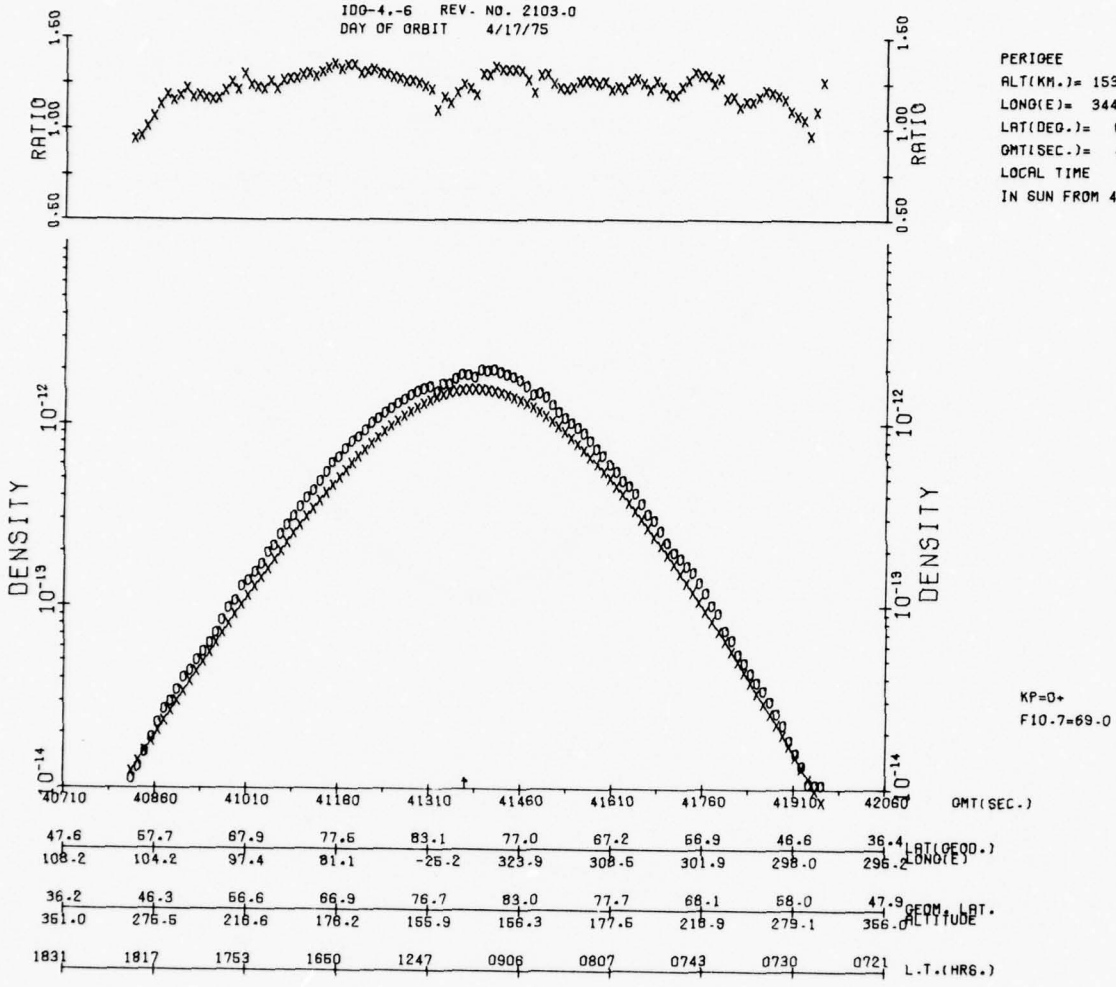
PERIGEE
ALT(KM.)= 153.45
LONG(E)= 66.54
LAT(DEG.)= 75.75
GMT(SEC.)= 16218.0 (0430H)
LOCAL TIME 0866 (H)
IN SUN FROM 15660. TO 16900.

KP=3
F10.7=69.0



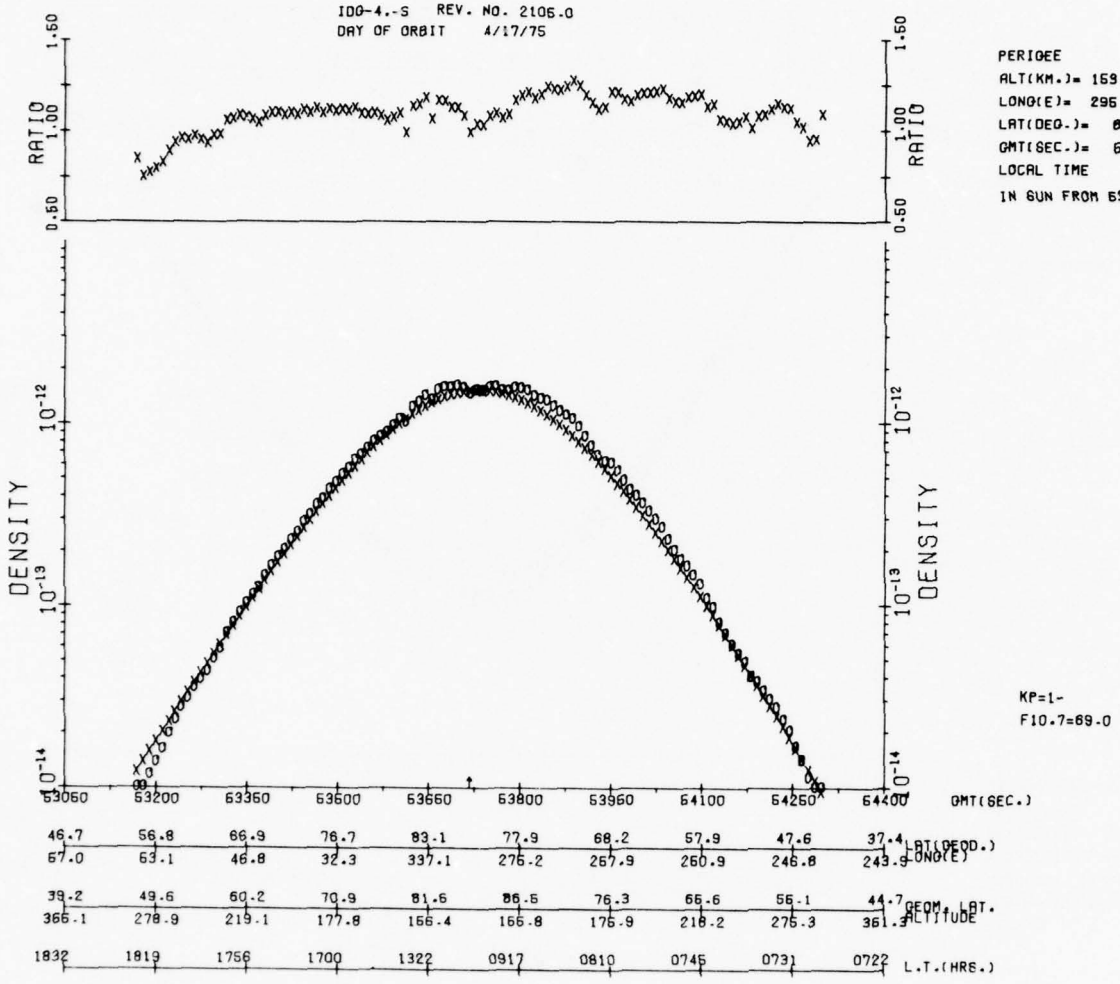
PERIGEE
ALT(KM.)= 153.22
LONG(E)= 332.06
LAT(DEG.)= 79.03
GMT(SEC.)= 41266.2 (1127H)
LOCAL TIME 0935 (H)
IN SUN FROM 40690. TO 41940.

KP=2+
F10.7=70.0



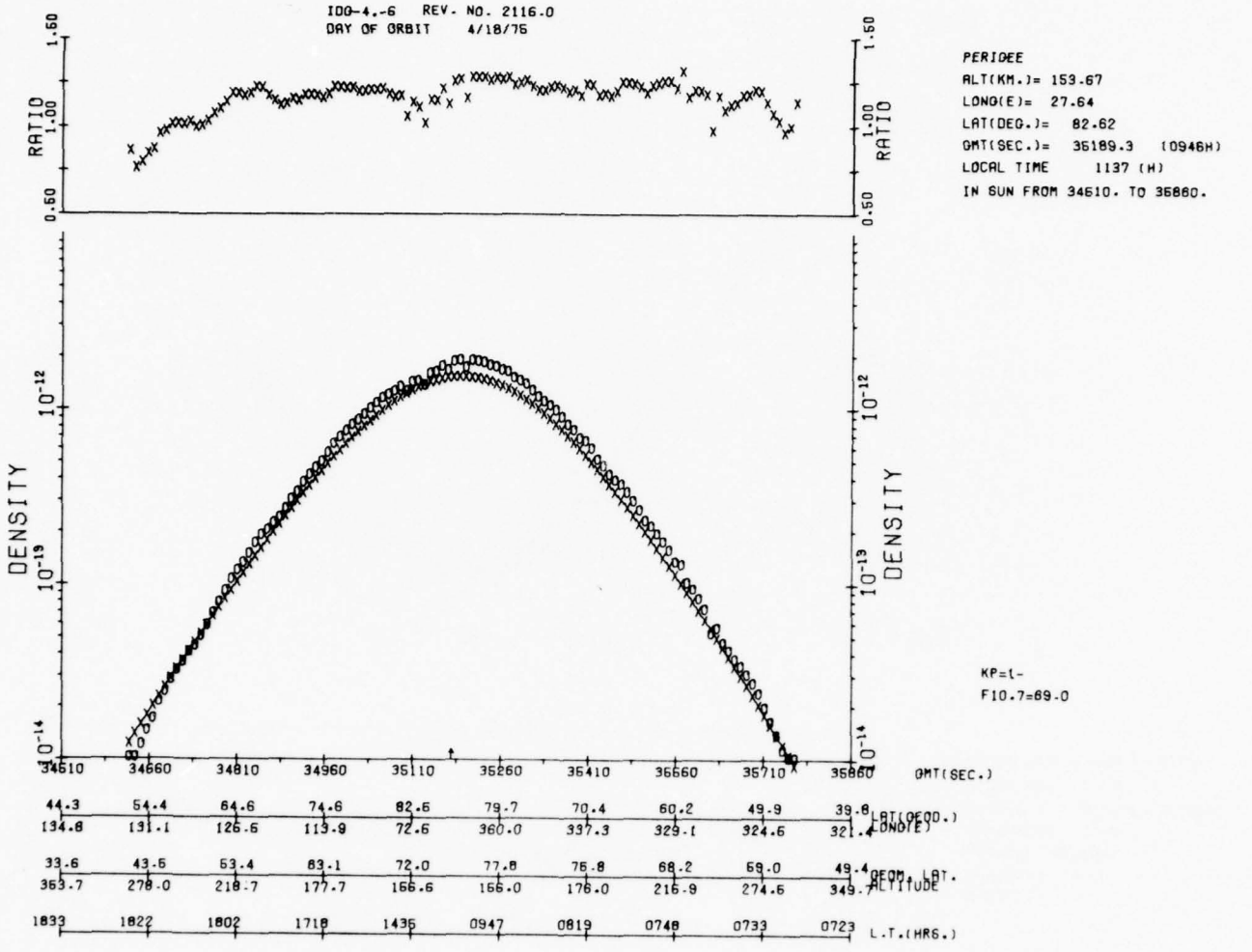
PERIGEE
ALT(KM.)= 153.45
LONG(E)= 344.38
LAT(DEG.)= 81.23
GMT(SEC.)= 41382.0 (1129H)
LOCAL TIME 1027 (H)
IN SUN FROM 40710. TO 42060.

KP=0+
F10.7=69.0



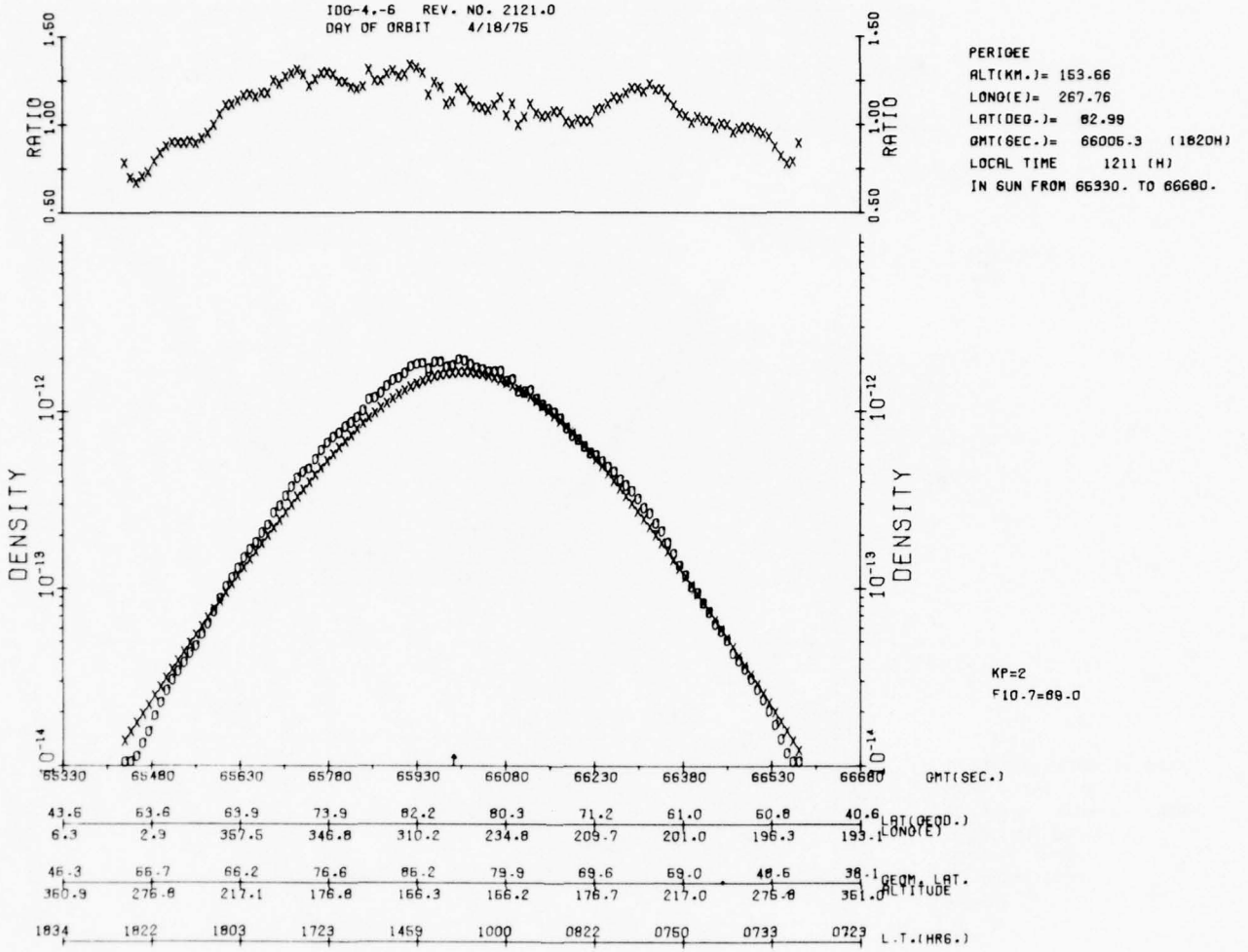
PERIGEE
ALT(KM.)= 159.49
LONG(E)= 296.40
LAT(DEG.)= 81.48
GMT(SEC.)= 63729.8 (1455M)
LOCAL TIME 1037 (H)
IN SUN FROM 53050. TO 54400.

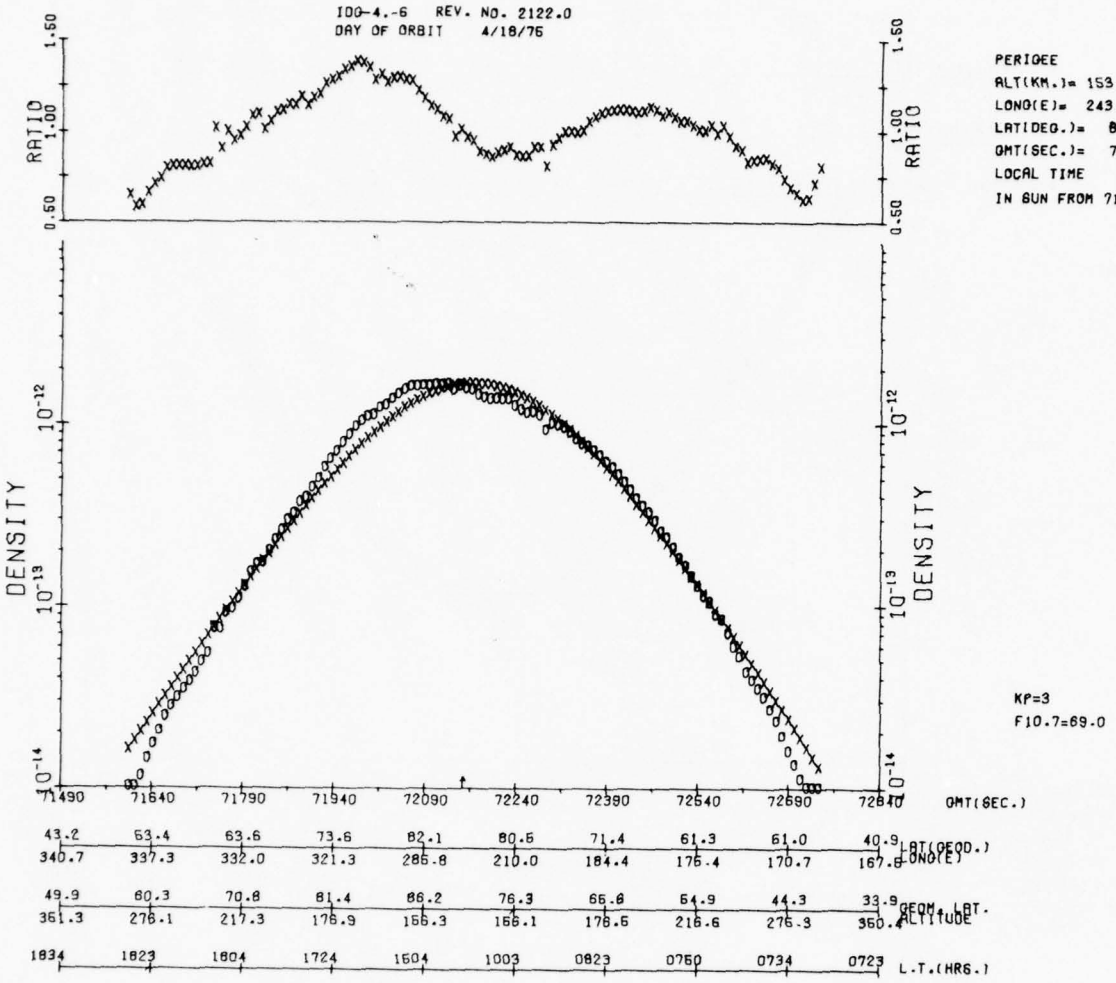
KP=1-
F10.7=69.0



PERIDEE
ALT(KM.)= 153.67
LONG(E)= 27.64
LAT(DEG.)= 82.62
GMT(SEC.)= 35189.3 (0946H)
LOCAL TIME 1137 (H)
IN SUN FROM 34610. TO 35860.

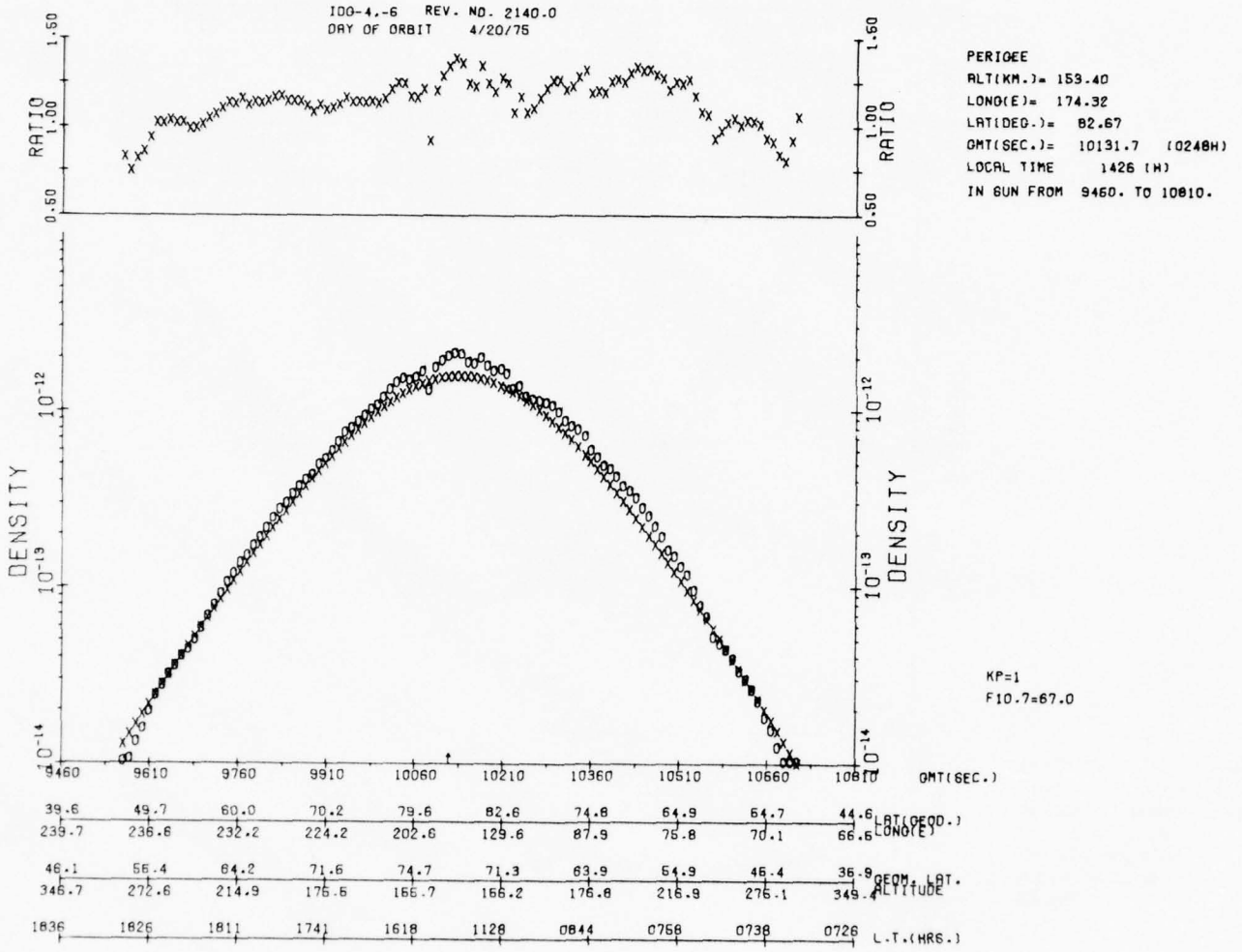
KP=1-
F10.7=69.0


IDG-4,-6 REV. NO. 2121.0
DAY OF ORBIT 4/18/75
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 153.66
LONG(E)= 267.76
LAT(DEG.)= 82.99
GMT(SEC.)= 66006.3 (1820H)
LOCAL TIME 1211 (H)
IN SUN FROM 66330. TO 66680.
KP=2
F10.7=68.0
65330 65480 65630 65780 65930 66080 66230 66380 66530 66680 GMT(SEC.)
43.6 63.6 63.9 73.9 82.2 80.3 71.2 61.0 60.8 40.6 LAT(GEOD.)
6.3 2.9 357.5 346.8 310.2 234.8 209.7 201.0 196.3 193.1 LONG(E)
46.3 66.7 66.2 76.6 86.2 79.9 69.6 69.0 48.6 38.1 GEOM. LAT.
360.9 276.8 217.1 176.8 166.3 166.2 176.7 217.0 276.8 361.0 ALTITUDE
1834 1822 1803 1723 1459 1000 0822 0750 0733 0723 L.T.(HR6.)



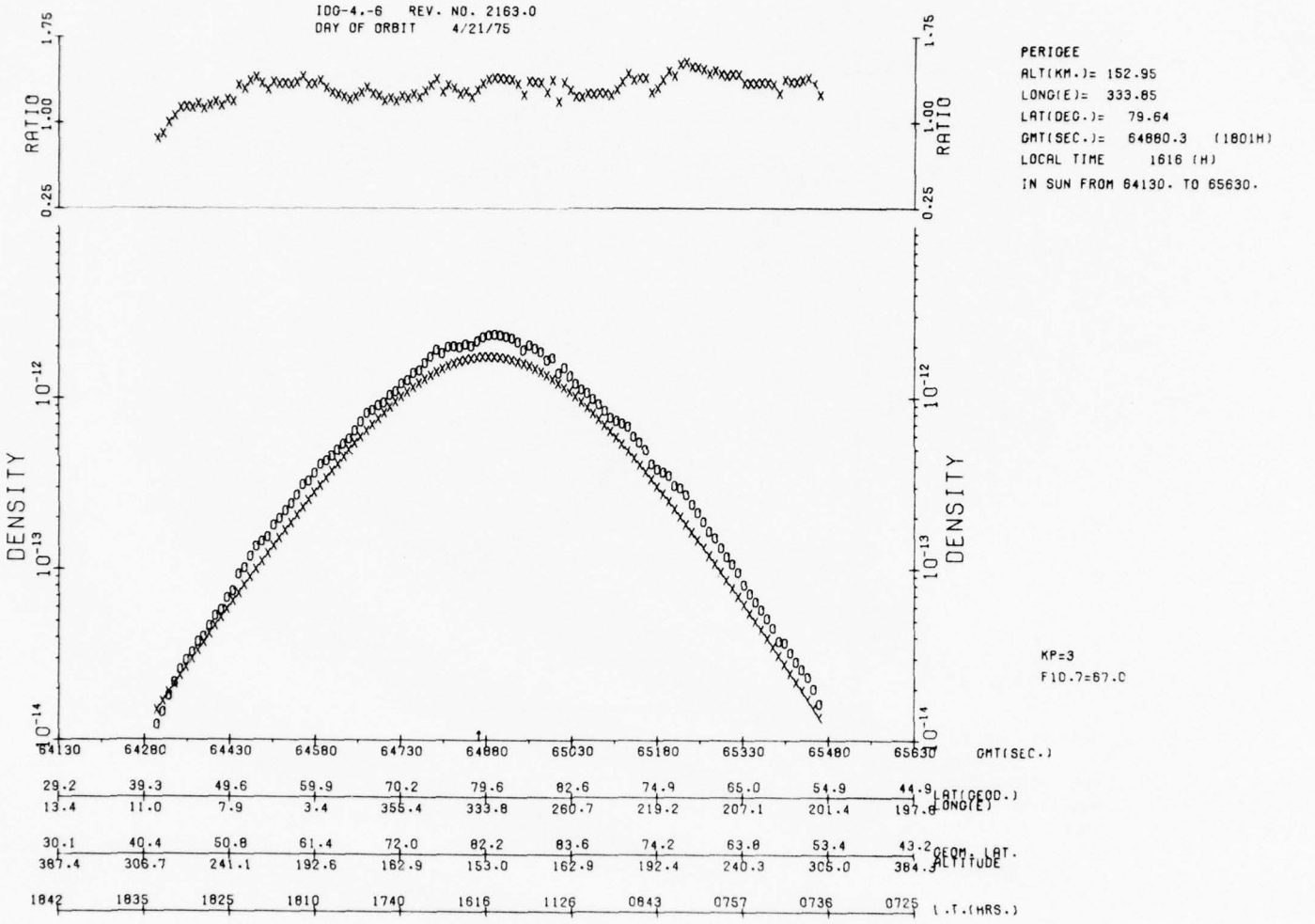
PERIGEE
ALT(KM.)= 153.64
LONG(E)= 243.31
LAT(DEG.)= 83.03
GMT(SEC.)= 72166.2 (2002H)
LOCAL TIME 1215 (H)
IN GUN FROM 71490. TO 72840.

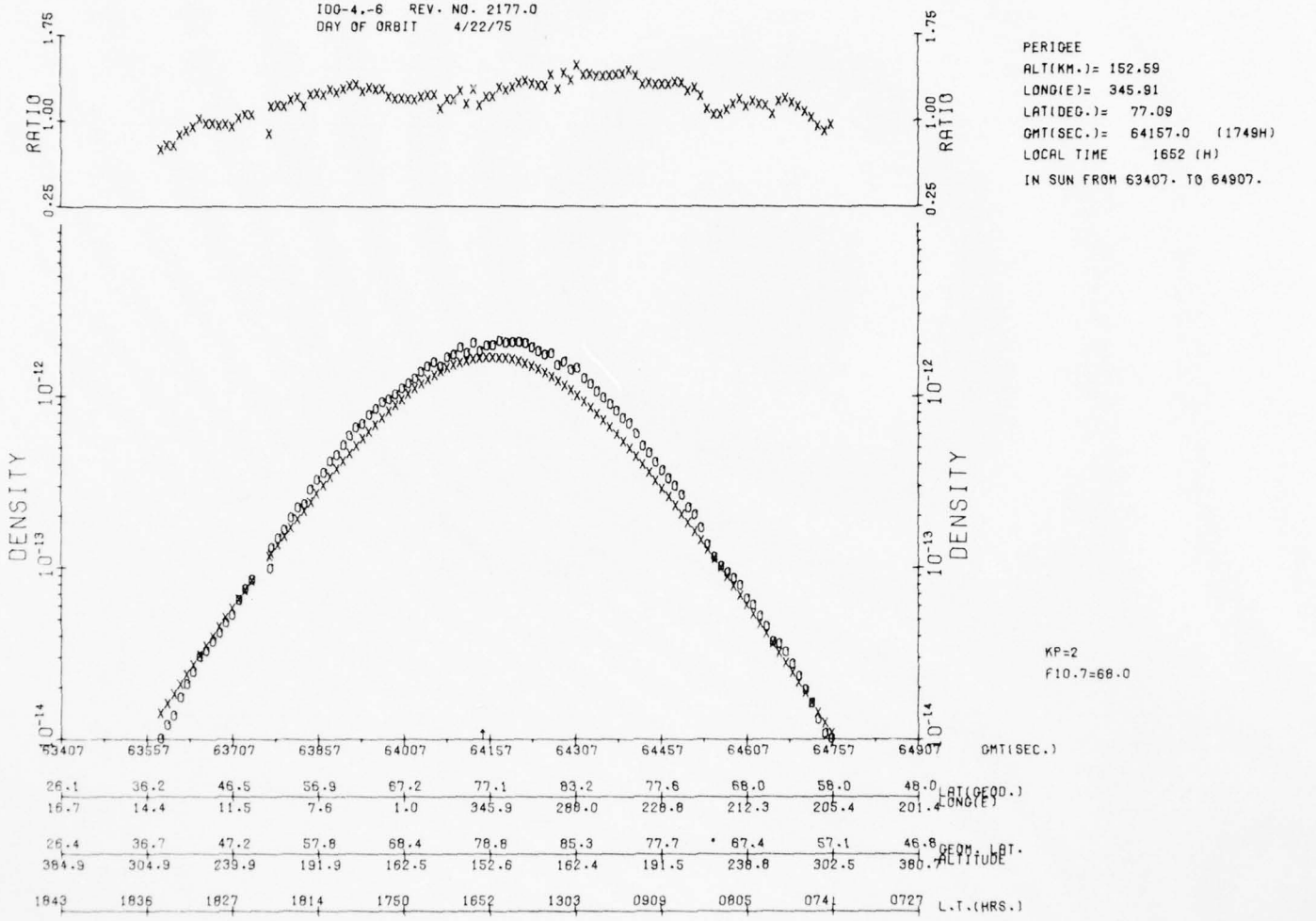
KP=3
F10.7=69.0

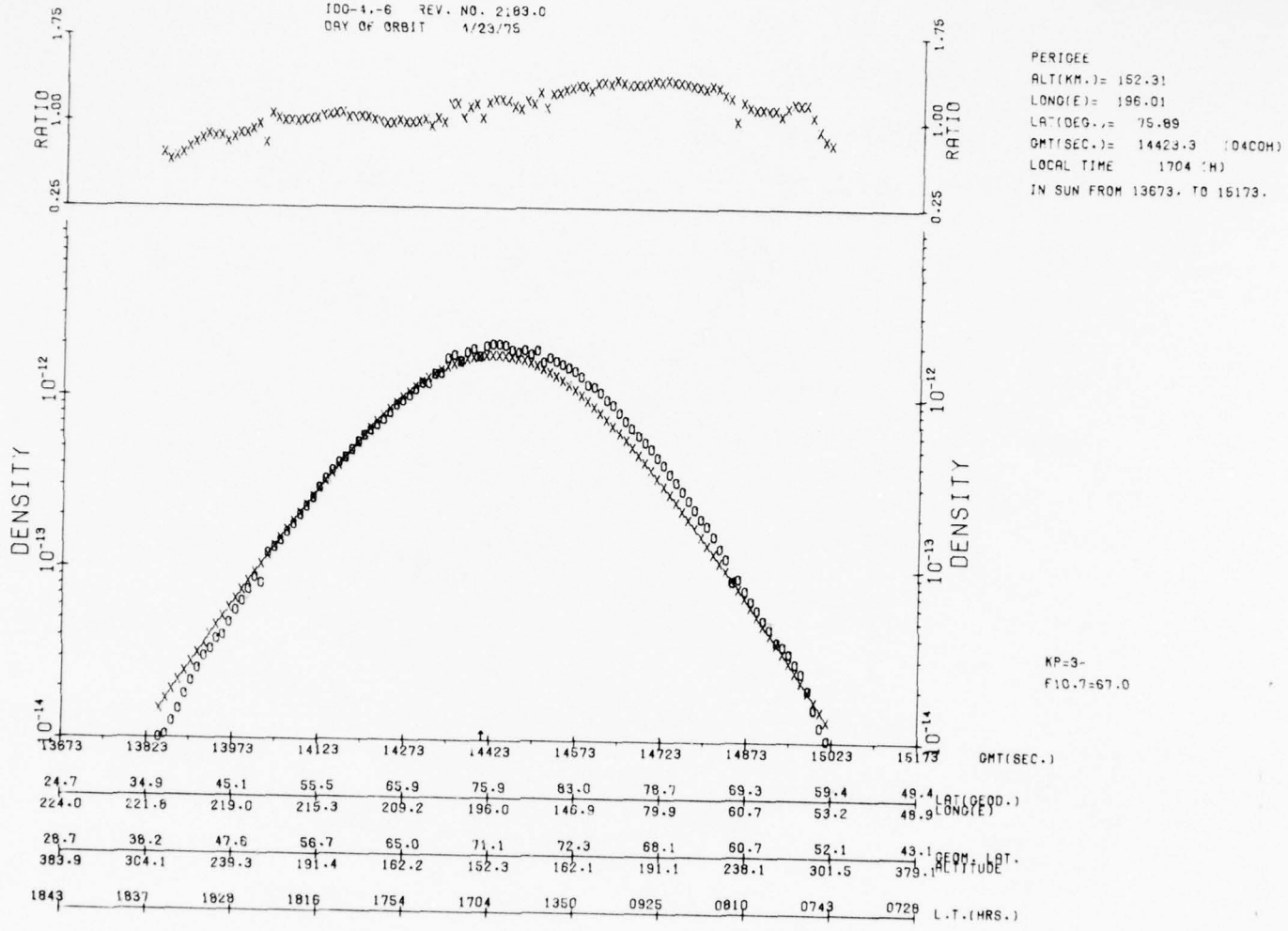


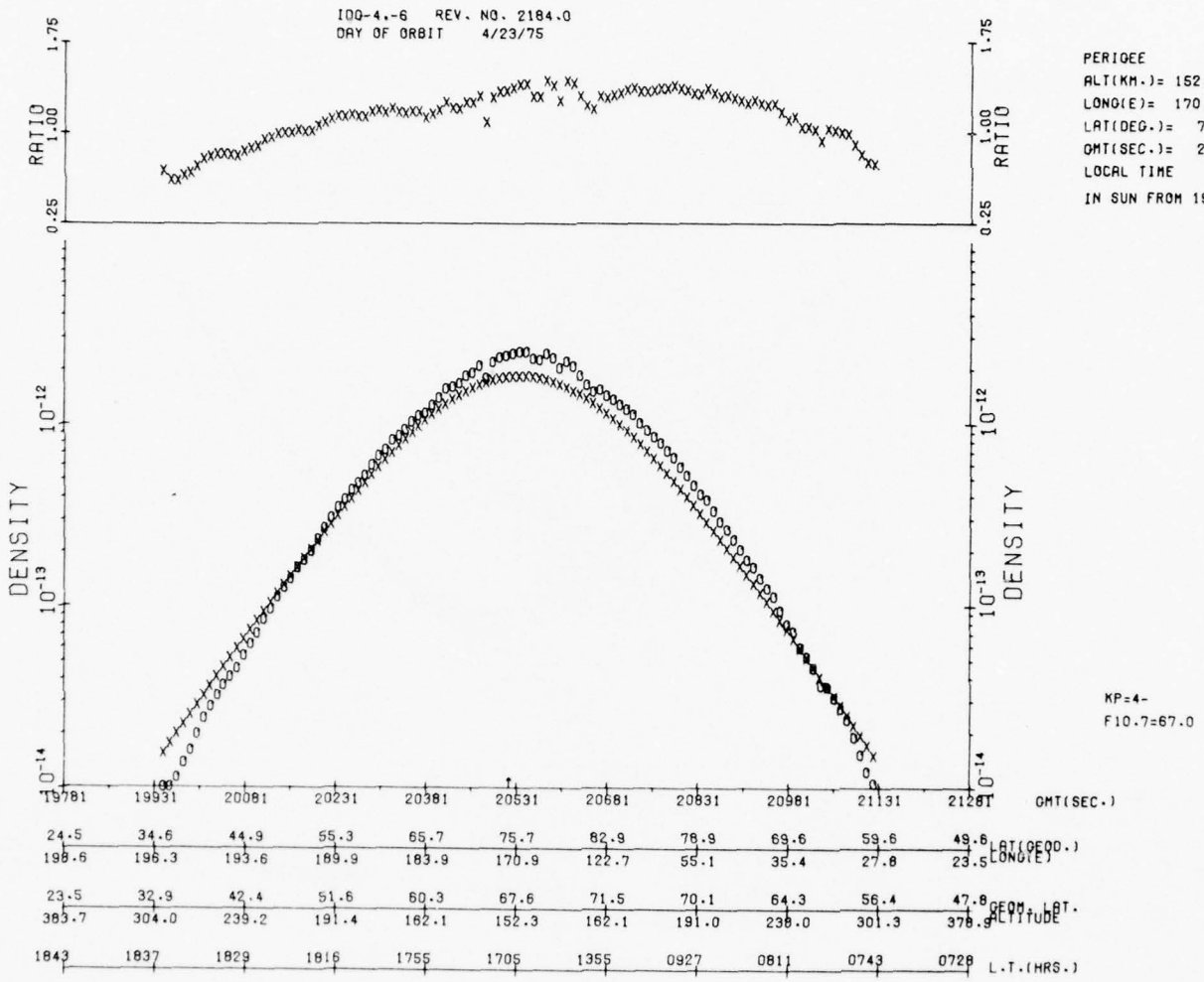
PERIGEE
ALT(KM.)= 153.40
LONG(E)= 174.32
LAT(DEG.)= 82.67
GMT(SEC.)= 10131.7 (0248H)
LOCAL TIME 1426 (H)
IN SUN FROM 9460. TO 10810.

KP=1
F10.7=67.0


IDG-4.-6 REV. NO. 2163.0
DAY OF ORBIT 4/21/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 152.95
LONG(E)= 333.85
LAT(DEG.)= 79.64
GMT(SEC.)= 64880.3 (1801H)
LOCAL TIME 1616 (H)
IN SUN FROM 64130. TO 65630.
KP=3
F10.7=67.0
64130 64280 64430 64580 64730 64880 65030 65180 65330 65480 65630 GMT(SEC.)
29.2 39.3 49.6 59.9 70.2 79.6 82.6 74.9 65.0 54.9 44.9 LAT(GEOD.)
13.4 11.0 7.9 3.4 355.4 333.8 260.7 219.2 207.1 201.4 197.8 LONG(E)
30.1 40.4 50.8 61.4 72.0 82.2 83.6 74.2 63.8 53.4 43.2 GEOM. LAT.
387.4 306.7 241.1 192.6 162.9 153.0 162.9 192.4 240.3 305.0 384.3 ALTITUDE
1842 1835 1825 1810 1740 1616 1126 0843 0757 0736 0725 L.T.(HRS.)

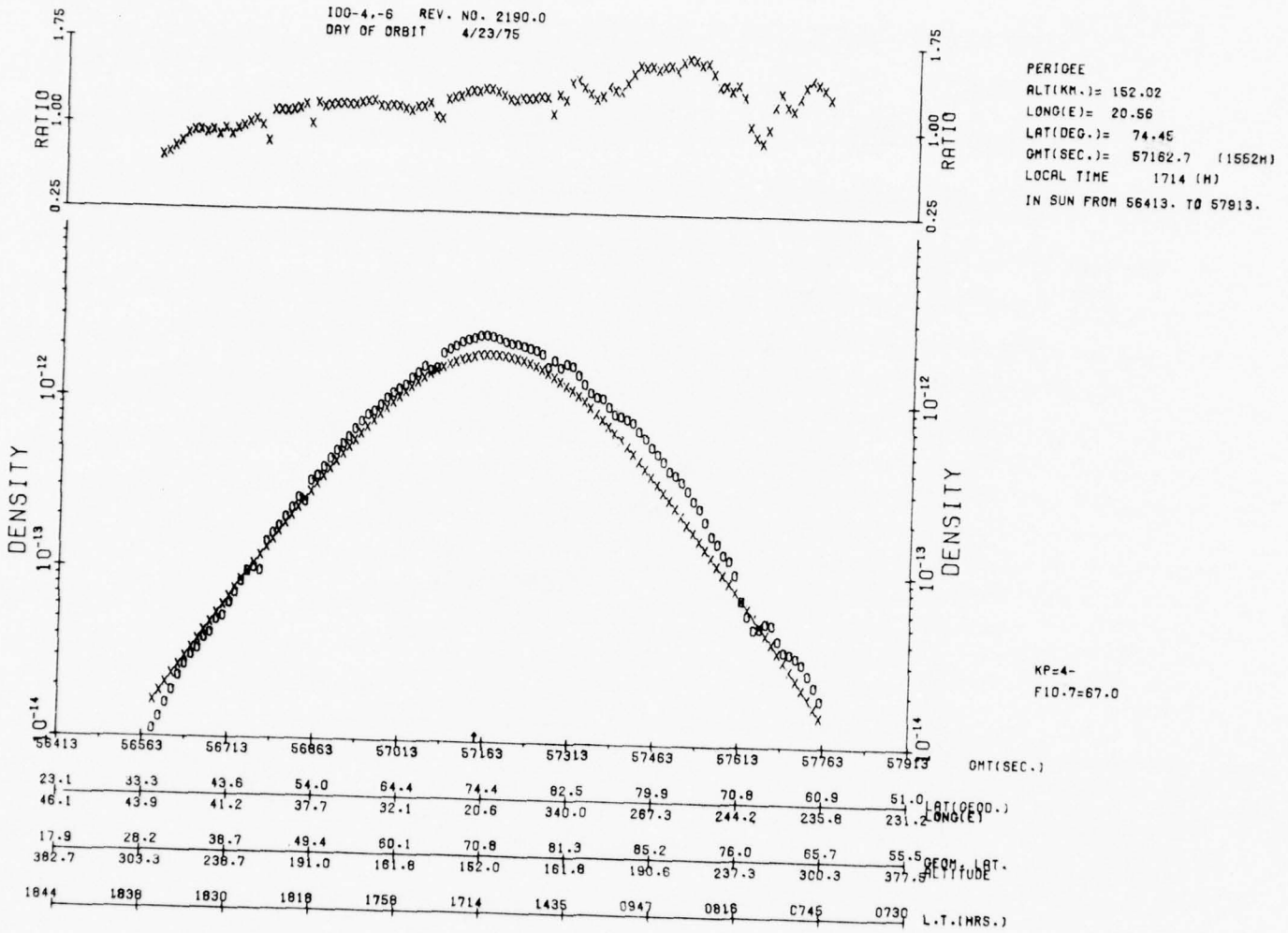

IDO-4.-6 REV. NO. 2177.0
DAY OF ORBIT 4/22/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 152.59
LONG(E)= 345.91
LAT(DEG.)= 77.09
GMT(SEC.)= 64157.0 (1749H)
LOCAL TIME 1652 (H)
IN SUN FROM 63407. TO 64907.
KP=2
F10.7=68.0
63407 63557 63707 63857 64007 64157 64307 64457 64607 64757 64907 GMT(SEC.)
26.1 36.2 46.5 56.9 67.2 77.1 83.2 77.6 68.0 58.0 48.0 LAT(GEOD.)
16.7 14.4 11.5 7.6 1.0 345.9 288.0 228.8 212.3 205.4 201.4 LONG(E)
26.4 36.7 47.2 57.8 68.4 78.8 85.3 77.7 67.4 57.1 46.8 GEOM. LAT.
384.9 304.9 239.9 191.9 162.5 152.6 162.4 191.5 238.8 302.5 380.7 ALTITUDE
1843 1836 1827 1814 1750 1652 1303 0909 0805 0741 0727 L.T.(HRS.)

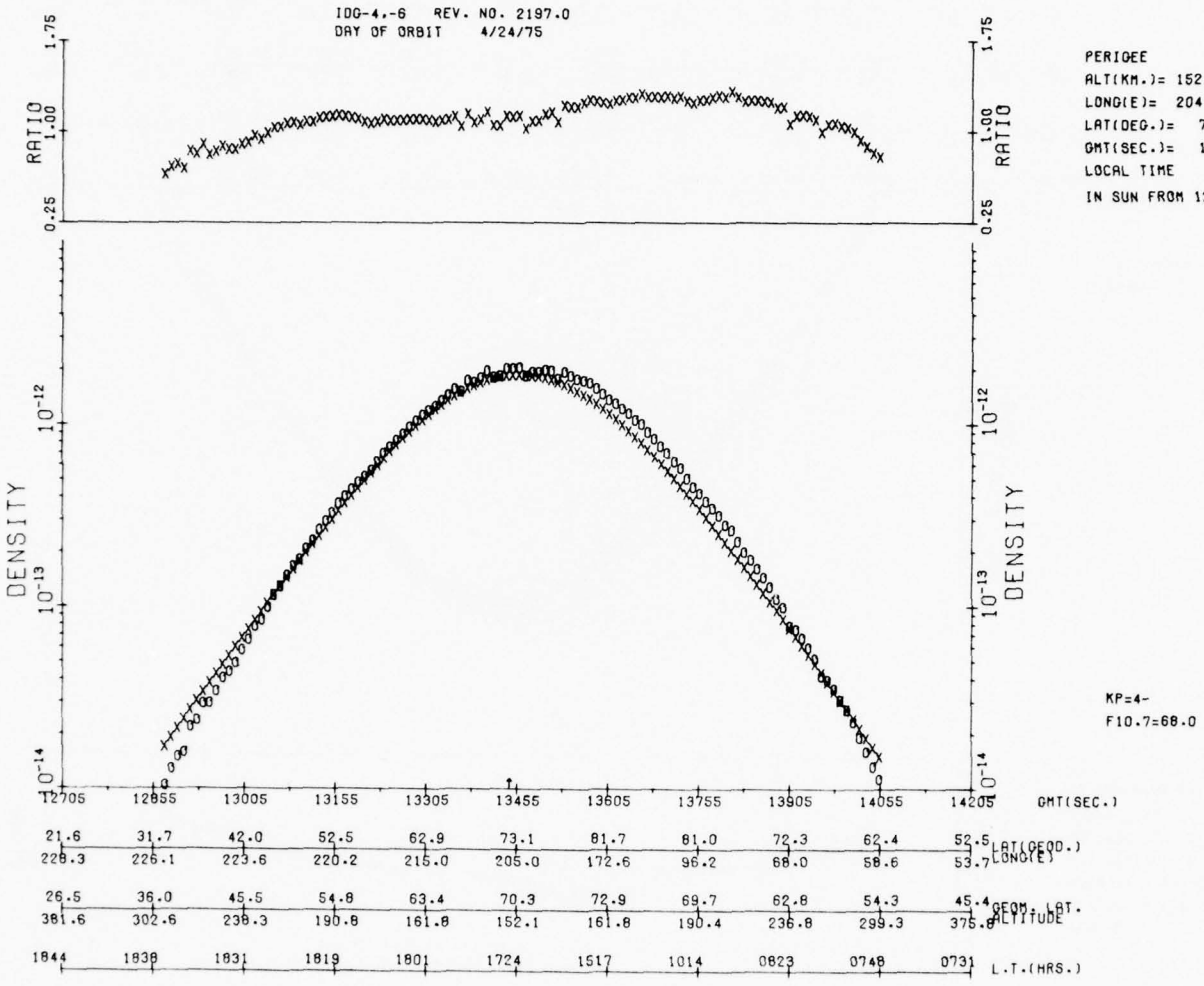

IDO-1,-6 REV. NO. 2183.0
DAY OF ORBIT 1/23/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 152.31
LONG(E)= 196.01
LAT(DEG.)= 75.89
GMT(SEC.)= 14423.3 (04COH)
LOCAL TIME 1704 (H)
IN SUN FROM 13673. TO 15173.
KP=3-
F10.7=67.0
13673 13823 13973 14123 14273 14423 14573 14723 14873 15023 15173 GMT(SEC.)
24.7 34.9 45.1 55.5 65.9 75.9 83.0 78.7 69.3 59.4 49.4 LAT(GEOD.)
224.0 221.6 219.0 215.3 209.2 196.0 146.9 79.9 60.7 53.2 48.9 LONG(E)
28.7 38.2 47.6 56.7 65.0 71.1 72.3 68.1 60.7 52.1 43.1 GEOM. LAT.
383.9 304.1 239.3 191.4 162.2 152.3 162.1 191.1 238.1 301.5 379.1 ALTITUDE
1843 1837 1828 1816 1754 1704 1350 0925 0810 0743 0728 L.T.(HRS.)



PERIGEE
ALT(KM.)= 152.26
LONG(E)= 170.93
LAT(DEG.)= 75.68
GMT(SEC.)= 20531.5 (0542H)
LOCAL TIME 1705 (H)
IN SUN FROM 19781. TO 21281.

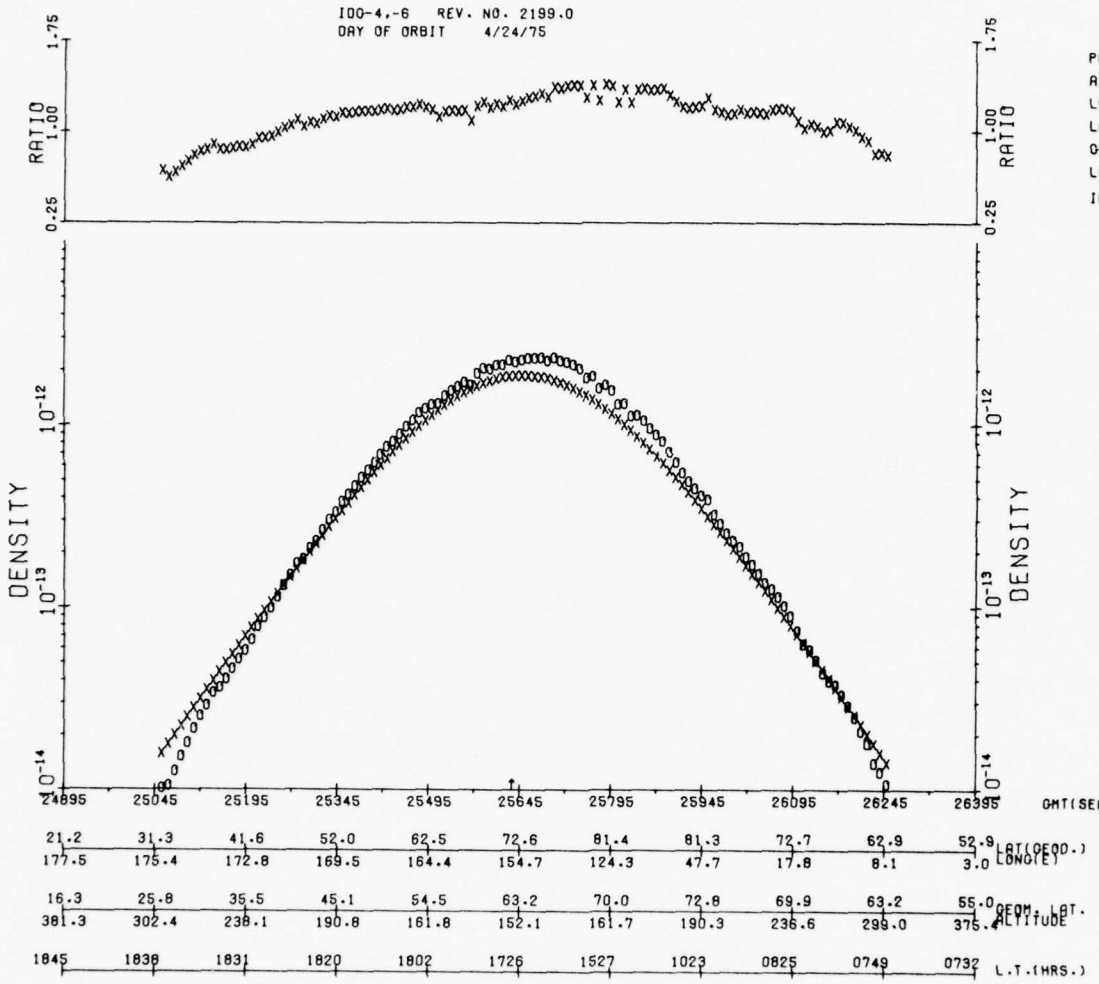
KP=4-
F10.7=67.0


IOO-4,-6 REV. NO. 2190.0
DAY OF ORBIT 4/23/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 152.02
LONG(E)= 20.56
LAT(DEG.)= 74.45
GMT(SEC.)= 57162.7 (1552H)
LOCAL TIME 1714 (H)
IN SUN FROM 56413. TO 57913.
KP=4-
F10.7=67.0
56413 56563 56713 56863 57013 57163 57313 57463 57613 57763 57913 GMT(SEC.)
23.1 33.3 43.6 54.0 64.4 74.4 82.5 79.9 70.8 60.9 51.0 LAT(GEOD.)
46.1 43.9 41.2 37.7 32.1 20.6 340.0 267.3 244.2 235.8 231.2 LONG(E)
17.9 28.2 38.7 49.4 60.1 70.8 81.3 85.2 76.0 65.7 55.5 GEOM. LAT.
382.7 303.3 238.7 191.0 161.8 152.0 161.8 190.6 237.3 300.3 377.5 ALTITUDE
1844 1838 1830 1818 1758 1714 1435 0947 0816 0745 0730 L.T.(HRS.)



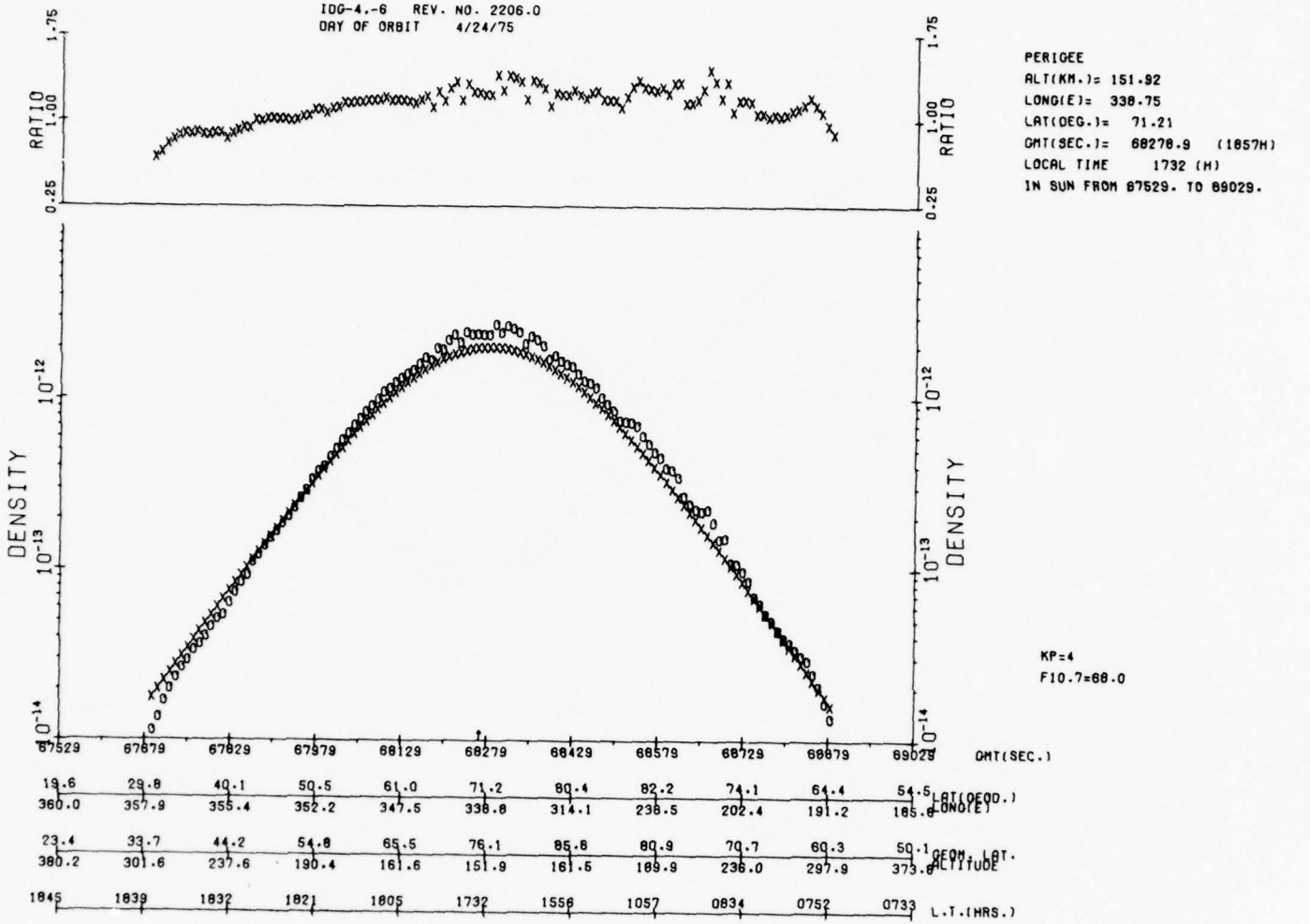
PERIGEE
ALT(KM.)= 152.07
LONG(E)= 204.95
LAT(DEG.)= 73.05
GMT(SEC.)= 13455.1 (0344H)
LOCAL TIME 1724 (H)
IN SUN FROM 12705. TO 14205.

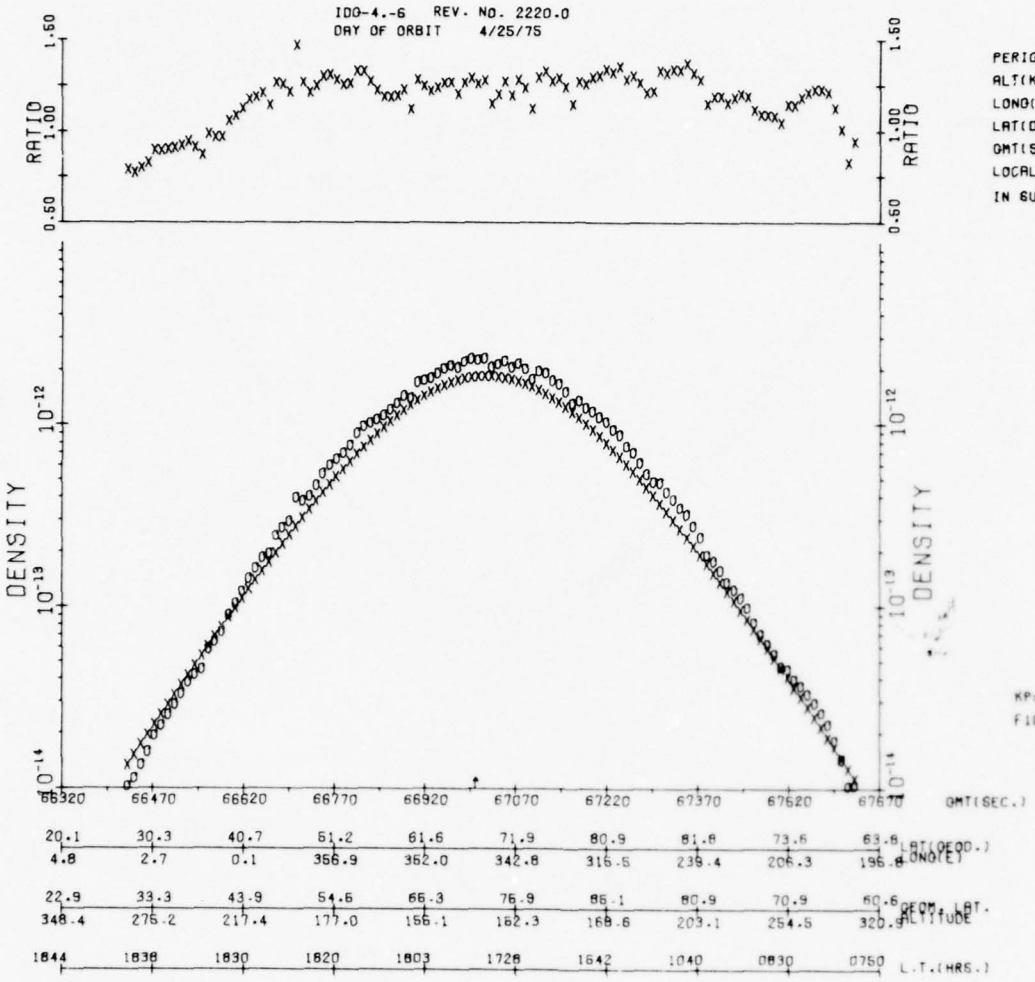
KP=4-
F10.7=68.0



PERIGEE
ALT(KM.)= 152.07
LONG(E)= 154.73
LAT(DEG.)= 72.65
GMT(SEC.)= 25644.8 (0707H)
LOCAL TIME 1726 (H)
IN SUN FROM 24895. TO 26395.

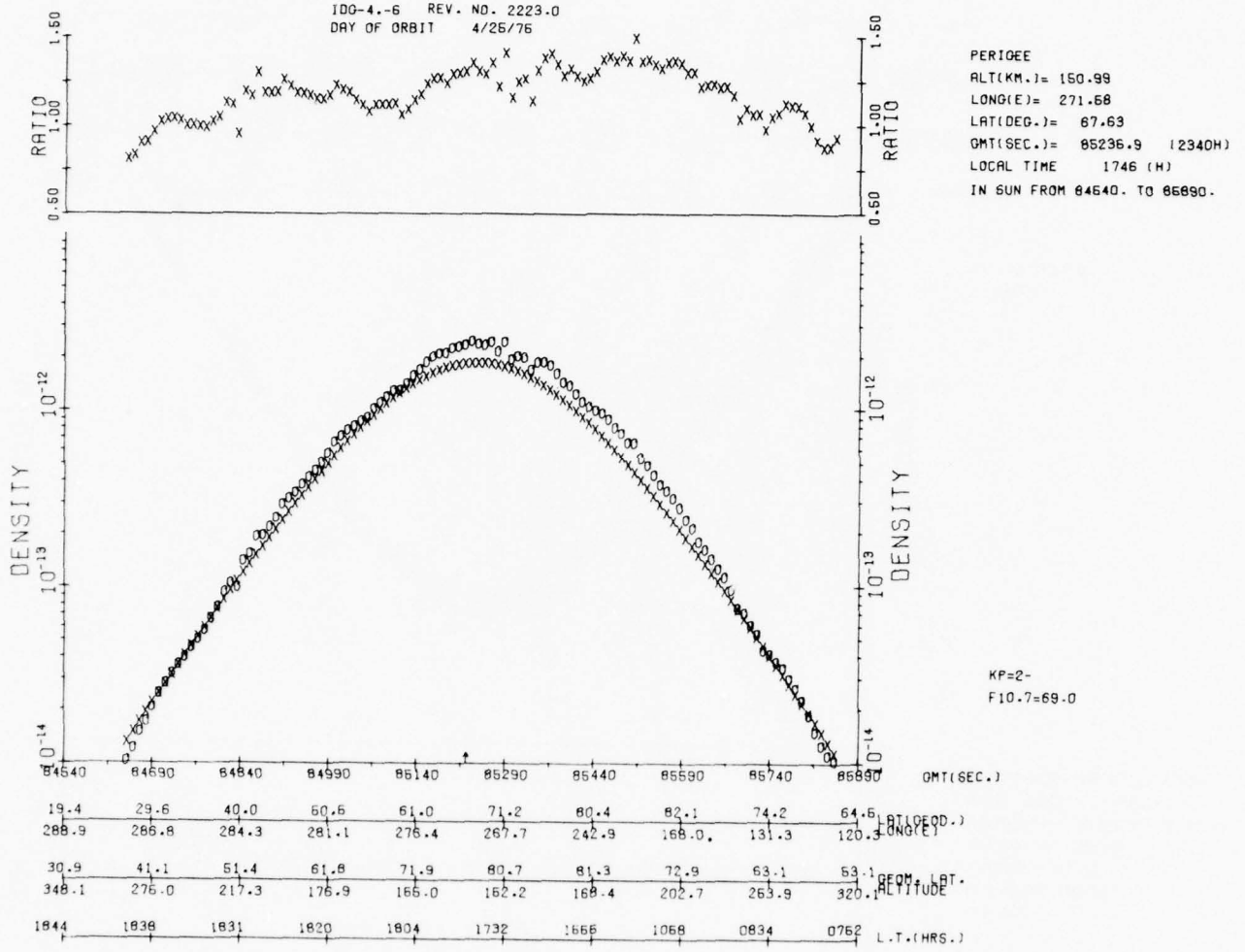
KP=4-
F10.7=68.0

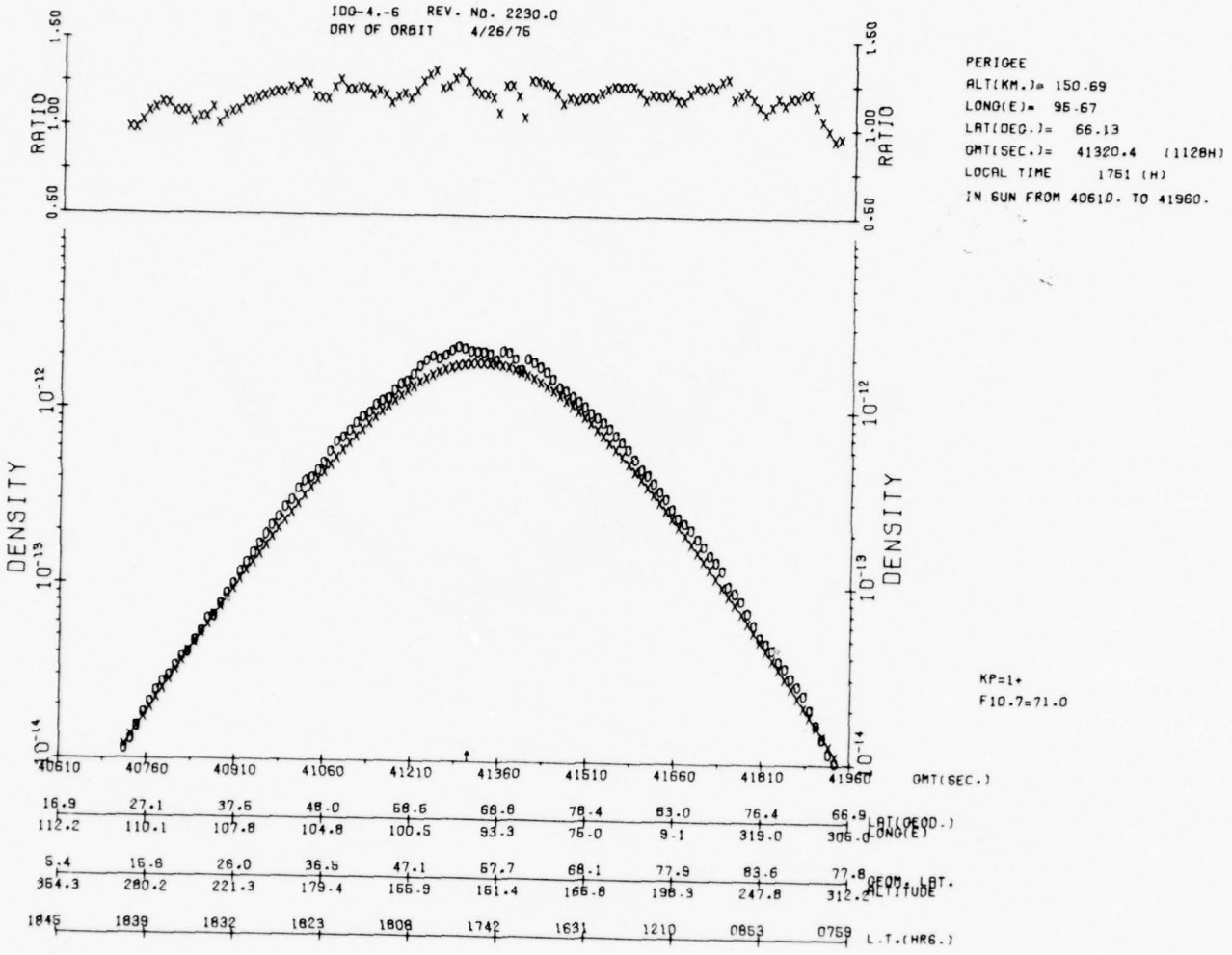

IDG-4.-6 REV. NO. 2206.0
DAY OF ORBIT 4/24/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 151.92
LONG(E)= 338.75
LAT(DEG.)= 71.21
GMT(SEC.)= 68278.9 (1857H)
LOCAL TIME 1732 (H)
IN SUN FROM 67529. TO 69029.
KP=4
F10.7=68.0
67529 67679 67829 67979 68129 68279 68429 68579 68729 68879 69029 GMT(SEC.)
19.6 29.8 40.1 50.5 61.0 71.2 80.4 82.2 74.1 64.4 54.5 LAT(DEGD.)
360.0 357.9 355.4 352.2 347.5 338.8 314.1 238.5 202.4 191.2 185.8 LONG(E)
23.4 33.7 44.2 54.8 65.5 76.1 85.8 80.9 70.7 60.3 50.1 GEOM. LAT.
380.2 301.6 237.6 190.4 161.6 151.9 161.5 189.9 236.0 297.9 373.8 ALTITUDE
1845 1839 1832 1821 1805 1732 1556 1057 0834 0752 0733 L.T.(HRS.)

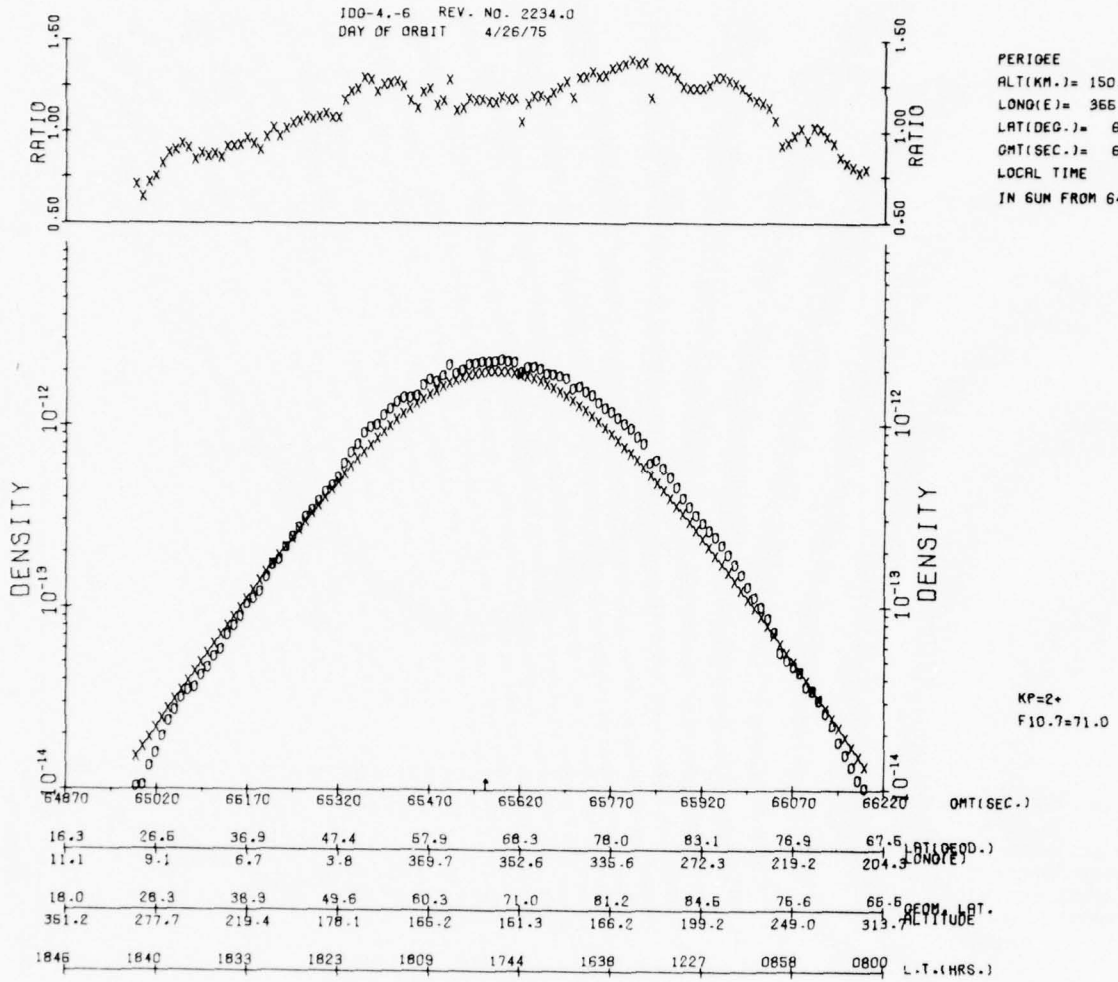


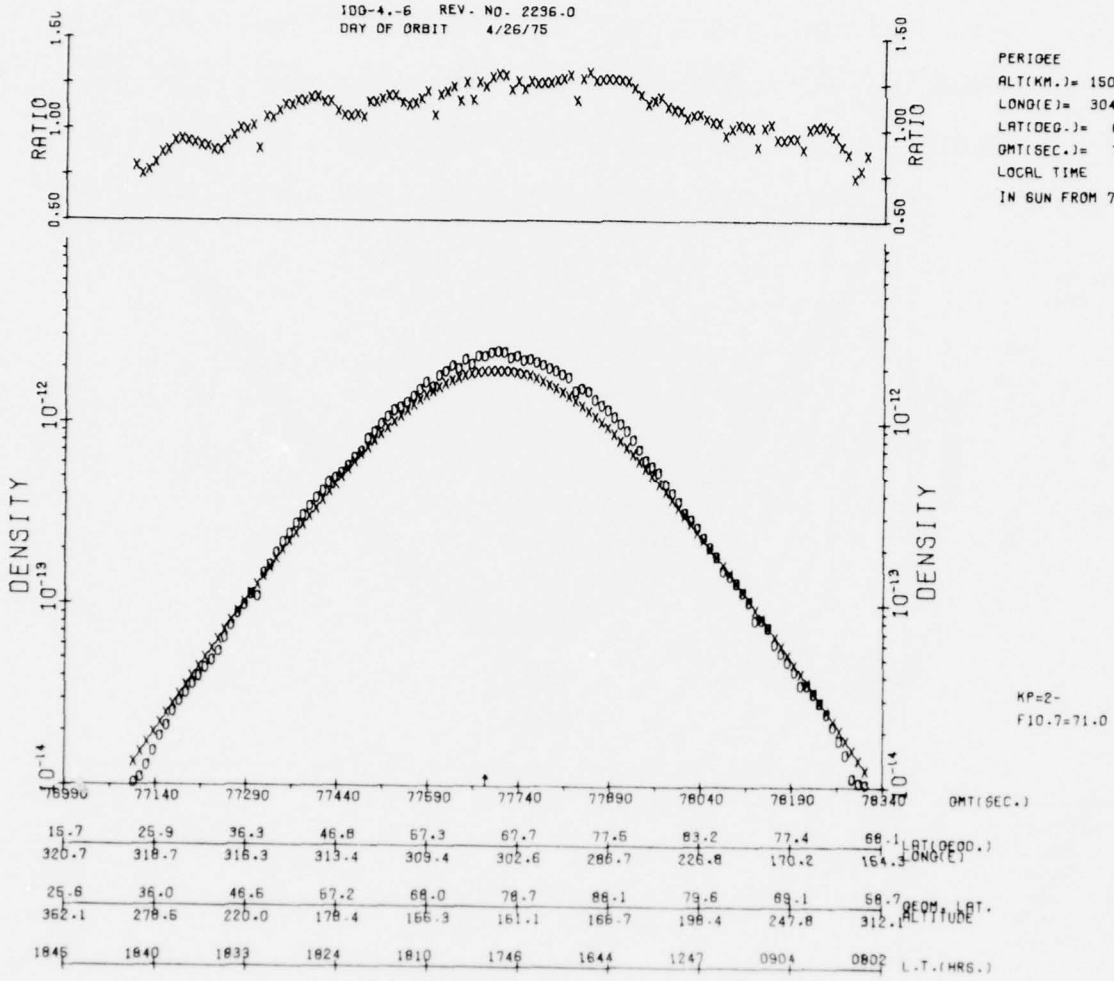
PERIGEE
ALT(KM.)= 151.11
LONG(E)= 346.94
LAT(DEG.)= 68.27
GMT(SEC.)= 67016.4 (1836H)
LOCAL TIME 1744 (H)
IN SUN FROM 66320. TO 67670.

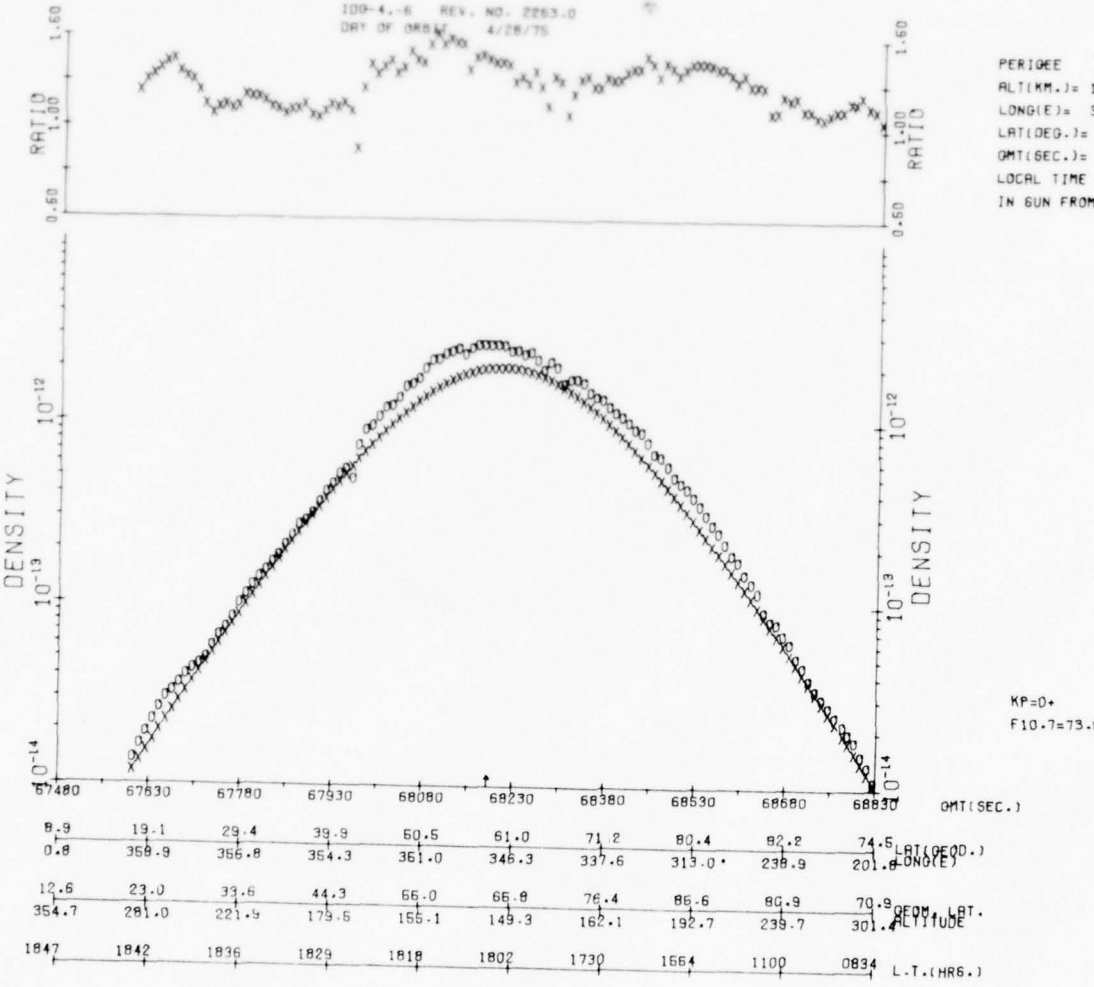
KP=2-
F10.7=69.0


IDG-4.-6 REV. NO. 2223.0
DAY OF ORBIT 4/25/76
RATIO
1.50
1.00
0.50
PERIGEE
ALT(KM.)= 150.99
LONG(E)= 271.68
LAT(DEG.)= 67.63
GMT(SEC.)= 85236.9 (2340H)
LOCAL TIME 1746 (H)
IN SUN FROM 84540. TO 85890.
DENSITY
10-12
10-13
10-14
KP=2-
F10.7=69.0
84540 84690 84840 84990 85140 85290 85440 85590 85740 85890 GMT(SEC.)
19.4 29.6 40.0 50.6 61.0 71.2 80.4 82.1 74.2 64.6 LAT(DEGD.)
288.9 286.8 284.3 281.1 276.4 267.7 242.9 168.0 131.3 120.3 LONG(E)
30.9 41.1 51.4 61.8 71.9 80.7 81.3 72.9 63.1 53.1 GEOM. LAT.
348.1 276.0 217.3 176.9 155.0 152.2 168.4 202.7 263.9 320.1 ALTITUDE
1844 1838 1831 1820 1804 1732 1656 1068 0834 0762 L.T.(HRS.)


IDO-4.-6 REV. NO. 2230.0
DAY OF ORBIT 4/26/75
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 150.69
LONG(E)= 95.67
LAT(DEG.)= 66.13
GMT(SEC.)= 41320.4 (1128H)
LOCAL TIME 1751 (H)
IN SUN FROM 40610. TO 41960.
KP=1+
F10.7=71.0
40610 40760 40910 41060 41210 41360 41510 41660 41810 41960 GMT(SEC.)
16.9 27.1 37.5 48.0 58.6 68.8 78.4 83.0 76.4 66.9 LAT(DEGD.)
112.2 110.1 107.8 104.8 100.5 93.3 76.0 9.1 319.0 305.0 LONG(E)
5.4 16.6 26.0 36.5 47.1 57.7 68.1 77.9 83.6 77.8 GEOM. LAT.
354.3 280.2 221.3 179.4 166.9 161.4 166.8 198.3 247.8 312.2 ALTITUDE
1845 1839 1832 1823 1808 1742 1631 1210 0853 0759 L.T.(HRS.)

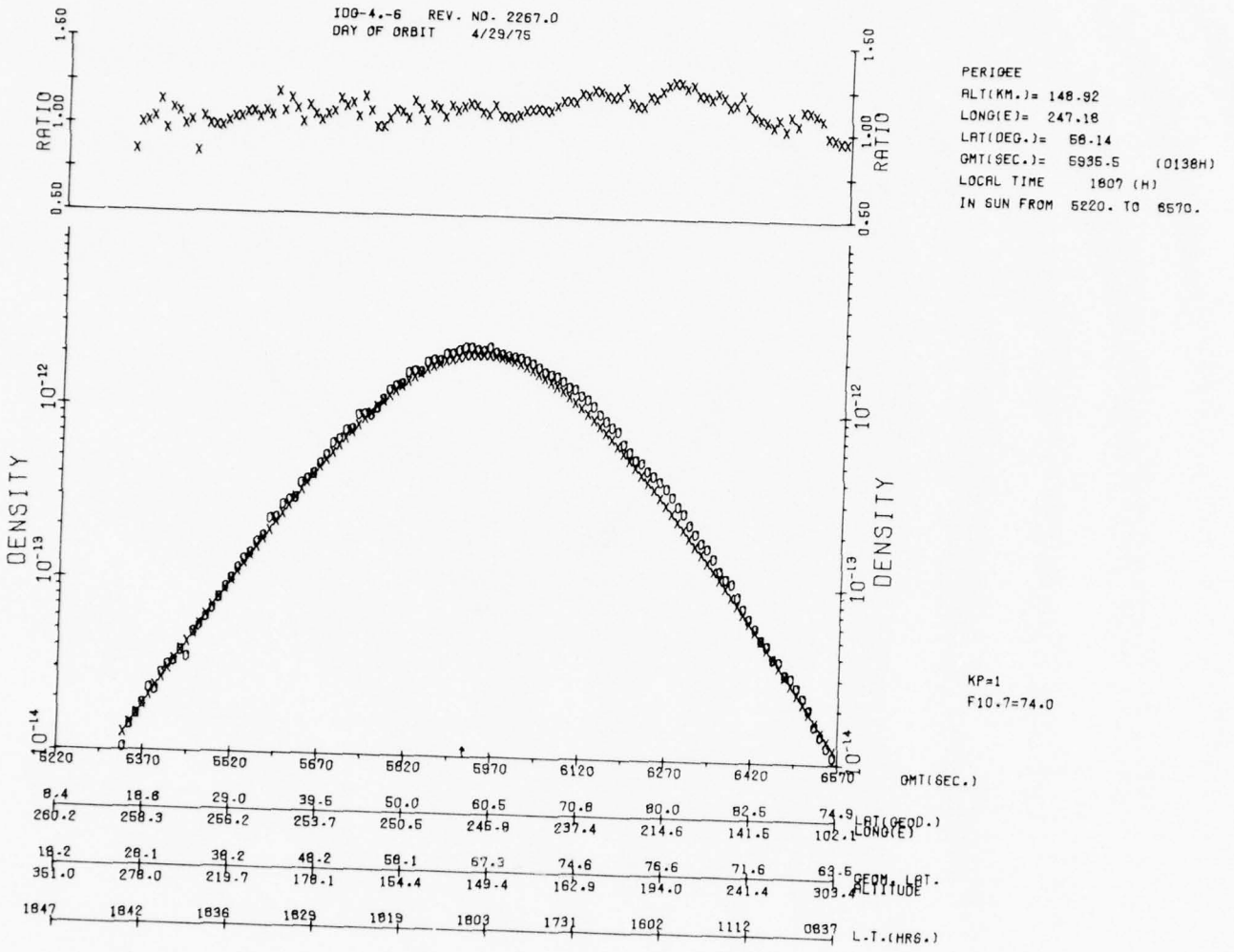

IDO-4.-6 REV. NO. 2234.0
DAY OF ORBIT 4/26/75
RATIO
1.50
1.00
0.50
DENSITY
10^-12
10^-13
10^-14
PERIGEE
ALT(KM.)= 150.45
LONG(E)= 365.16
LAT(DEG.)= 65.27
GMT(SEC.)= 65575.9 (1812H)
LOCAL TIME 1753 (H)
IN GUM FROM 64870. TO 66220.
KP=2+
F10.7=71.0
64870 65020 66170 65320 65470 65620 65770 65920 66070 66220 GMT(SEC.)
16.3 26.6 36.9 47.4 57.9 68.3 78.0 83.1 76.9 67.6 LAT(DEGD.)
11.1 9.1 6.7 3.8 359.7 352.6 335.6 272.3 219.2 204.3 LONG(E)
18.0 28.3 38.9 49.6 60.3 71.0 81.2 84.6 76.6 66.6 GEOM. LAT.
351.2 277.7 219.4 178.1 166.2 161.3 166.2 199.2 249.0 313.7 ALTITUDE
1846 1840 1833 1823 1809 1744 1638 1227 0858 0800 L.T.(HRS.)

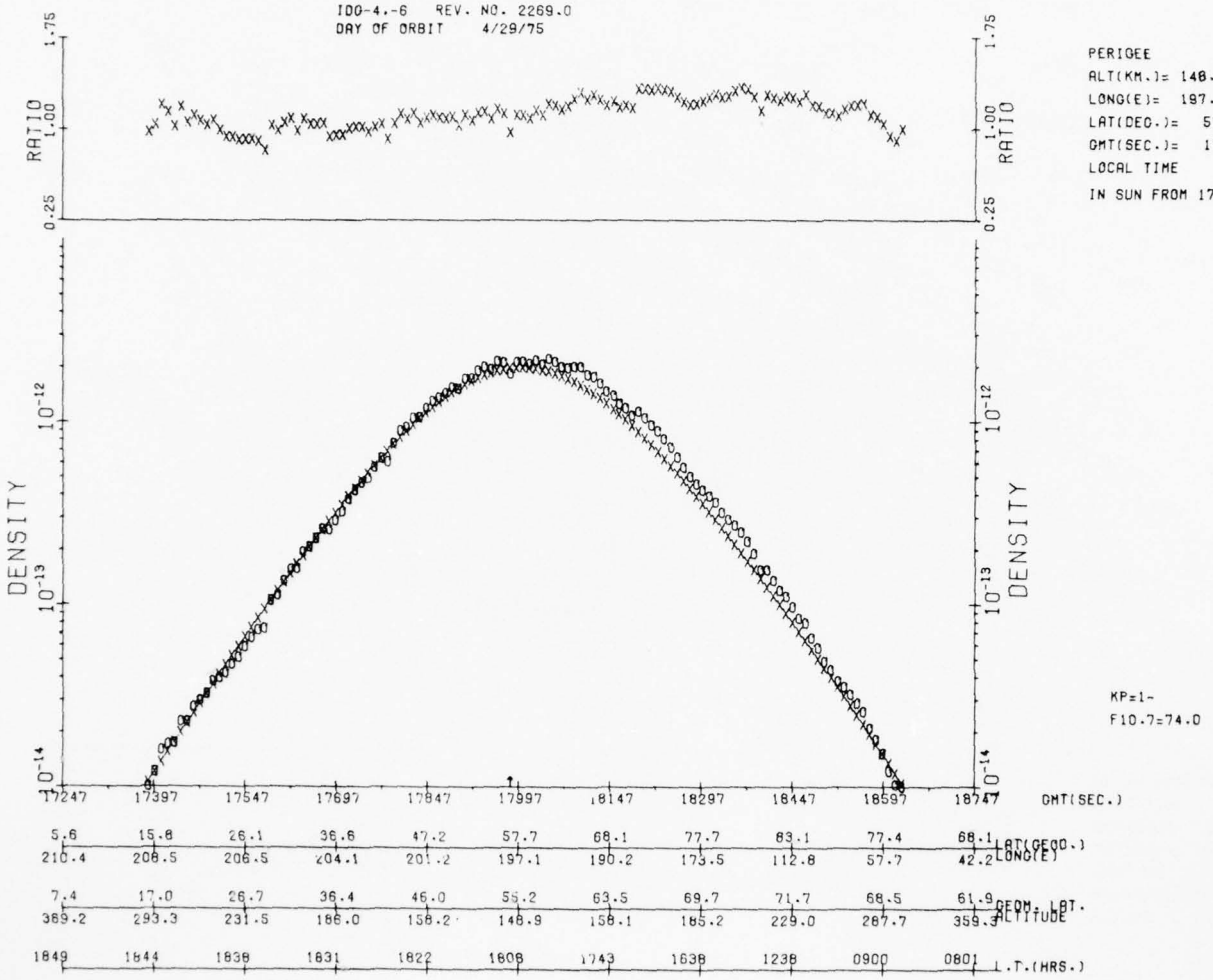

IDD-4.-6 REV. NO. 2236.0
DAY OF ORBIT 4/26/75
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 150.32
LONG(E)= 304.92
LAT(DEG.)= 64.83
GMT(SEC.)= 77698.3 (2134H)
LOCAL TIME 1764 (H)
IN SUN FROM 76990. TO 78340.
KP=2-
F10.7=71.0
76990 77140 77290 77440 77590 77740 77890 78040 78190 78340 GMT(SEC.)
15.7 25.9 36.3 46.8 57.3 67.7 77.5 83.2 77.4 68.1 LAT(DEGD.)
320.7 318.7 316.3 313.4 309.4 302.6 286.7 226.8 170.2 154.3 LONG(E)
25.6 36.0 46.6 57.2 68.0 78.7 88.1 79.6 69.1 58.7 GEOM. LAT.
362.1 278.5 220.0 178.4 156.3 161.1 166.7 198.4 247.8 312.1 ALTITUDE
1845 1840 1833 1824 1810 1746 1644 1247 0904 0802 L.T.(HRS.)



PERIGEE
ALT(KM.)= 149.00
LONG(E)= 347.41
LAT(DEG.)= 69.00
GMT(SEC.)= 68201.2 (1856H)
LOCAL TIME 1806 (H)
IN SUN FROM 67480. TO 68830.

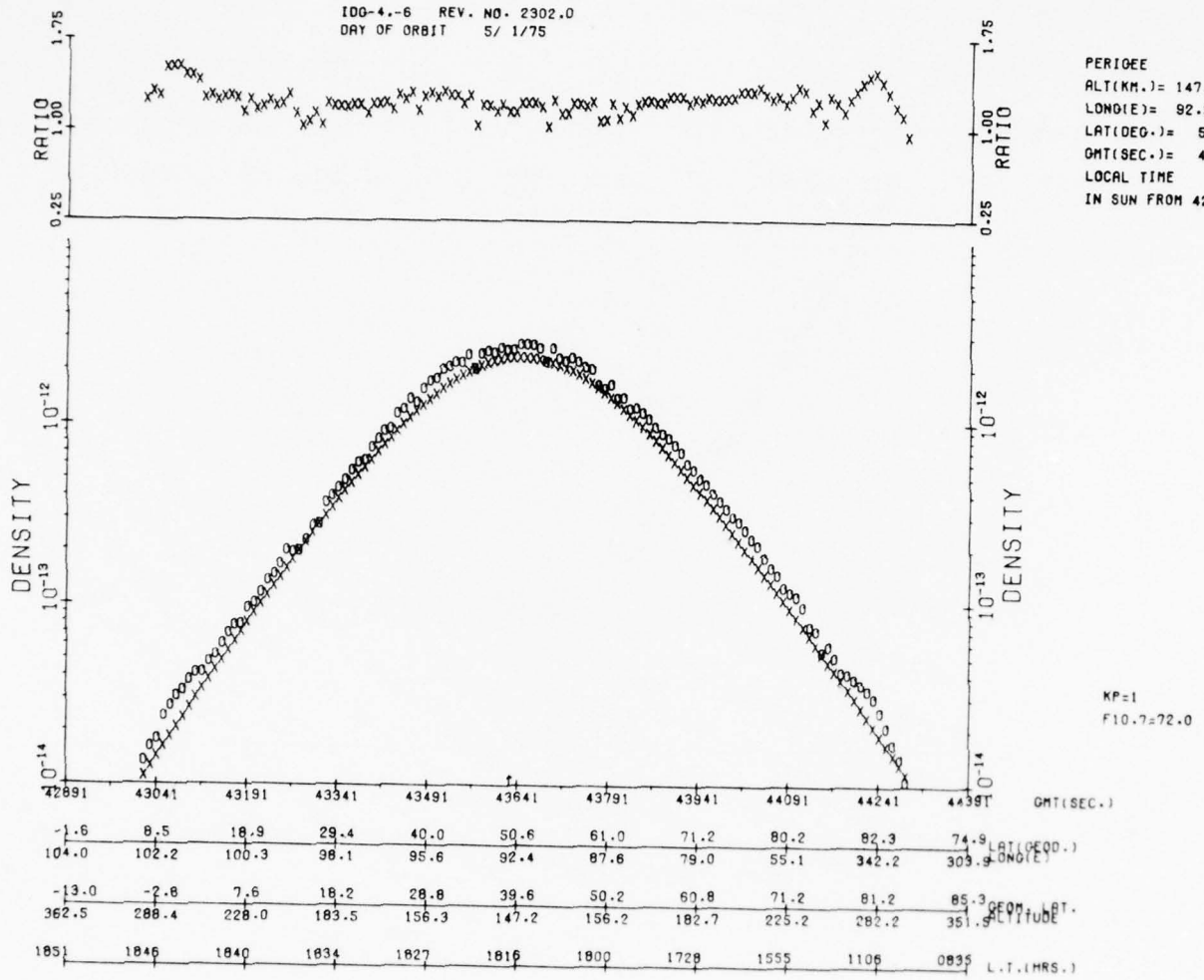
KP=0.
F10.7=73.0


IDG-4.-6 REV. NO. 2267.0
DAY OF ORBIT 4/29/75
RATIO
1.50
1.00
0.50
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 148.92
LONG(E)= 247.18
LAT(DEG.)= 66.14
GMT(SEC.)= 5935.5 (0138H)
LOCAL TIME 1807 (H)
IN SUN FROM 5220. TO 6570.
KP=1
F10.7=74.0
5220 5370 5520 5670 5820 5970 6120 6270 6420 6570 GMT(SEC.)
8.4 18.8 29.0 39.5 50.0 60.5 70.8 80.0 82.5 74.9 LAT(GEOD.)
260.2 258.3 256.2 253.7 250.5 245.8 237.4 214.6 141.5 102.1 LONG(E)
18.2 28.1 38.2 48.2 58.1 67.3 74.6 76.6 71.6 63.5 GEOM. LAT.
351.0 278.0 219.7 178.1 154.4 149.4 162.9 194.0 241.4 303.4 ALTITUDE
1847 1842 1836 1829 1819 1803 1731 1602 1112 0837 L.T.(HRS.)



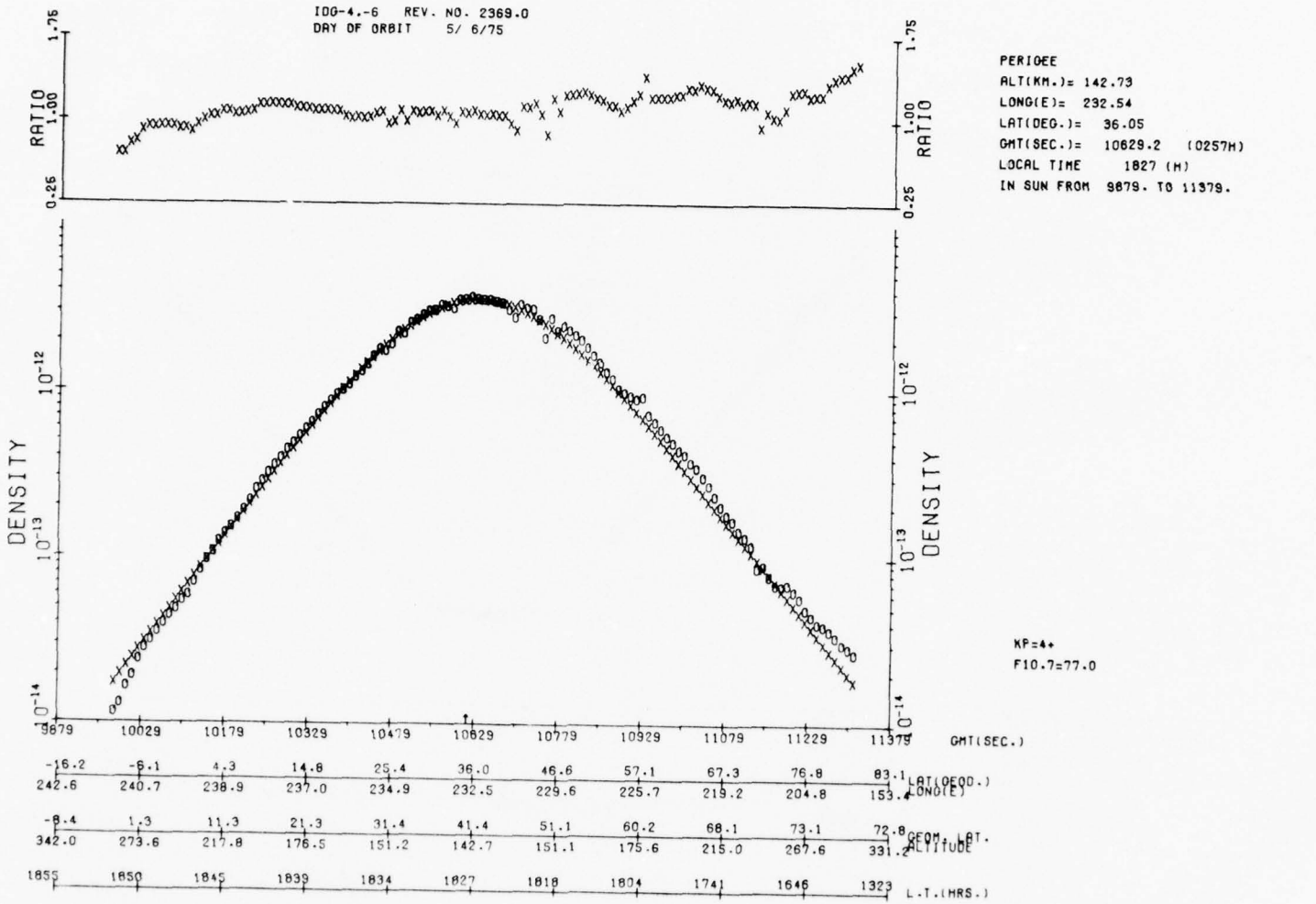
PERIGEE
ALT(KM.)= 148.88
LONG(E)= 197.08
LAT(DEG.)= 57.71
GMT(SEC.)= 17997.2 (0459H)
LOCAL TIME 1838 (H)
IN SUN FROM 17247. TO 18747.

KP=1-
F10.7=74.0



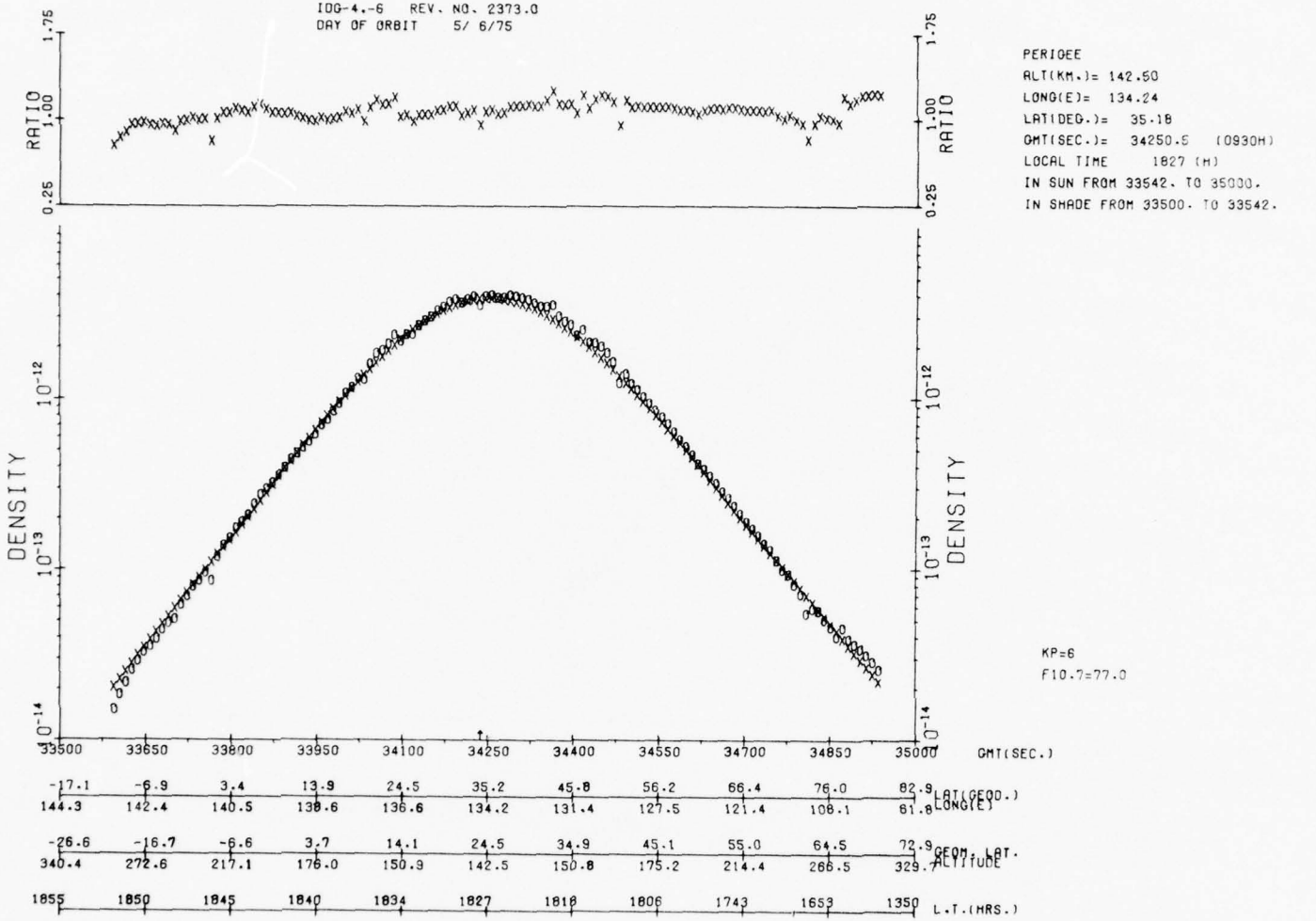
PERIGEE
ALT(KM.)= 147.23
LONG(E)= 92.38
LAT(DEG.)= 50.56
GMT(SEC.)= 43641.2 (1207H)
LOCAL TIME 1816 (H)
IN SUN FROM 42891. TO 44391.

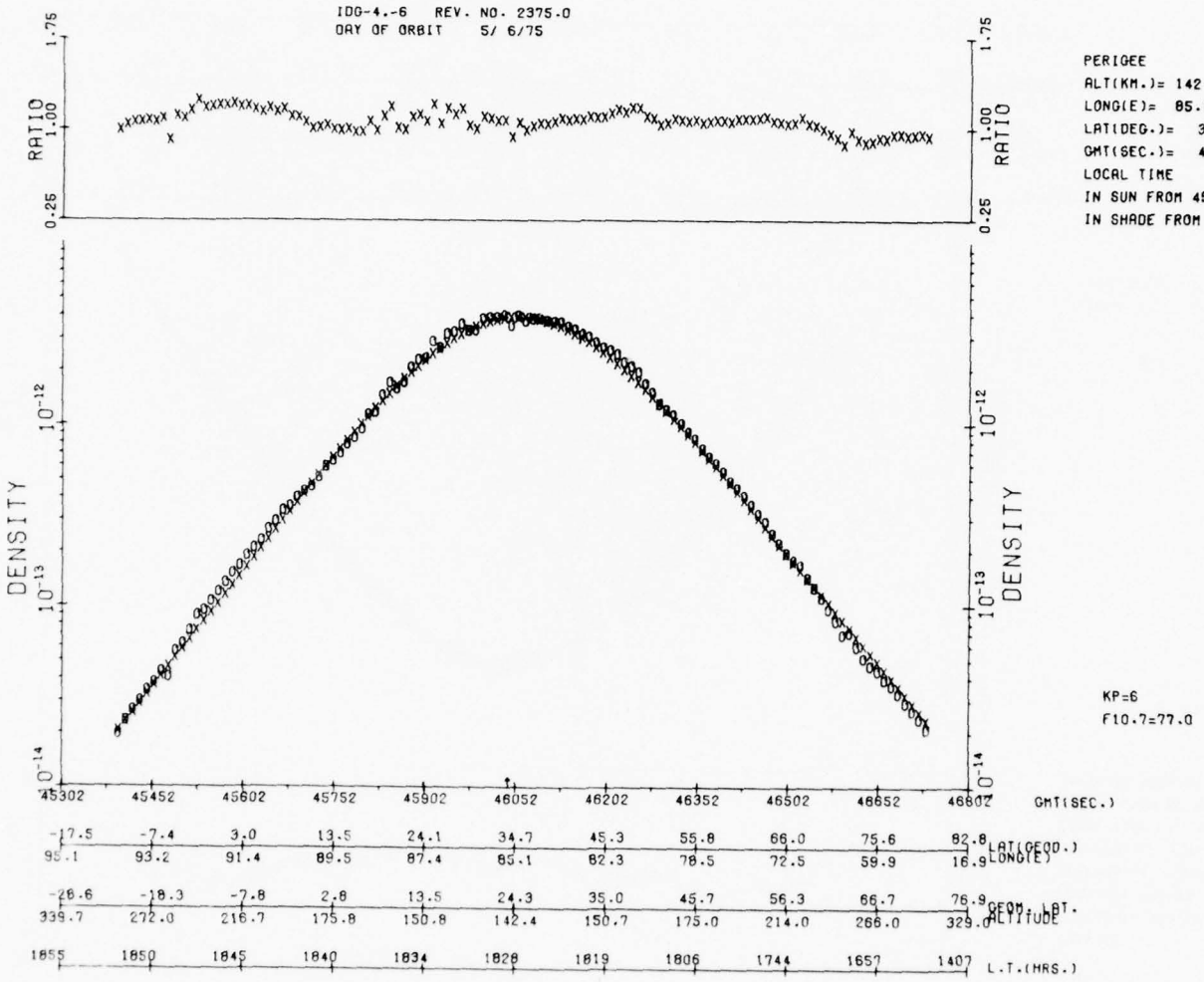
KP=1
F10.7=72.0



PERIGEE
ALT(KM.)= 142.73
LONG(E)= 232.54
LAT(DEG.)= 36.05
GMT(SEC.)= 10629.2 (0257H)
LOCAL TIME 1827 (H)
IN SUN FROM 9879. TO 11379.

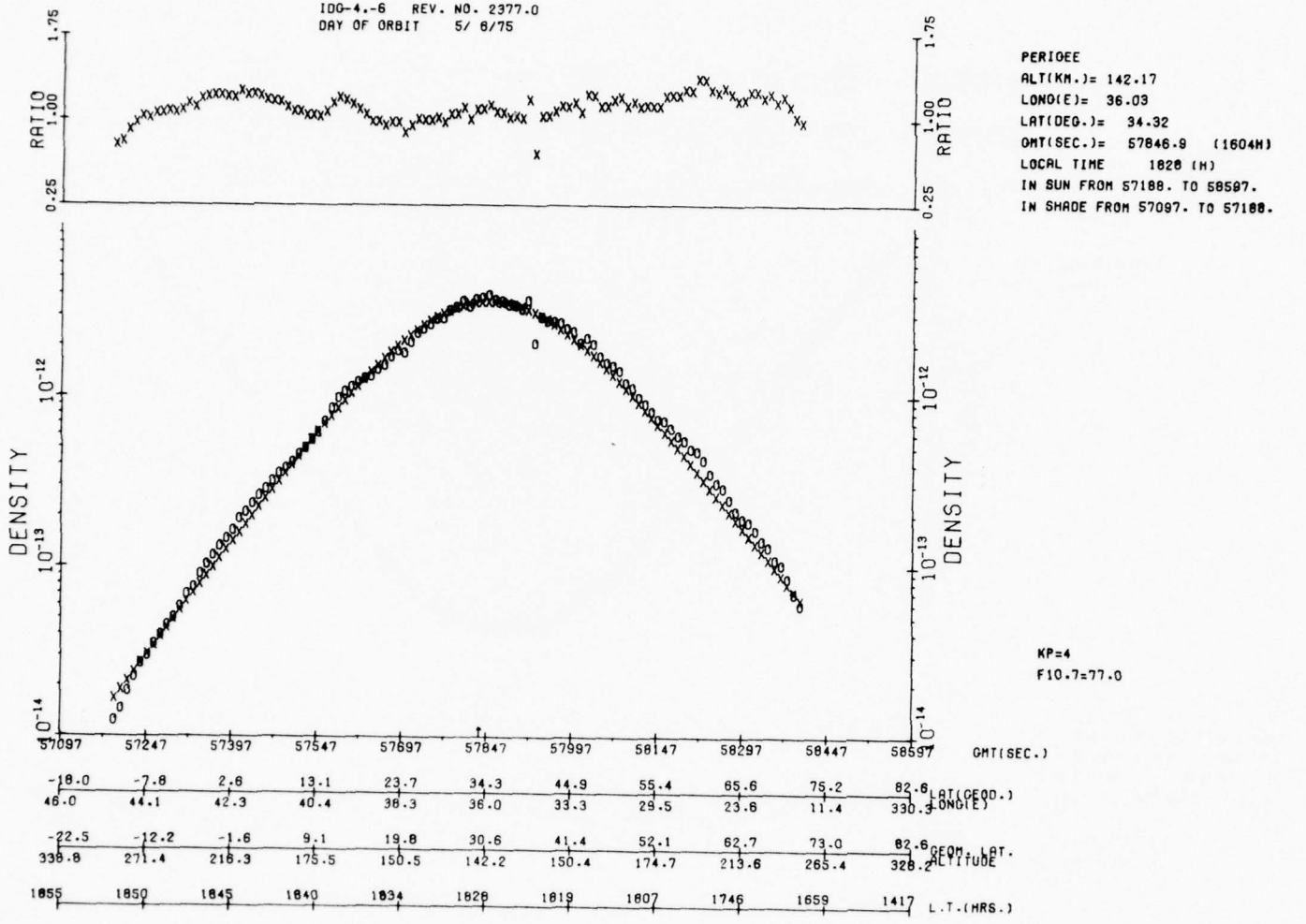
KP=4+
F10.7=77.0

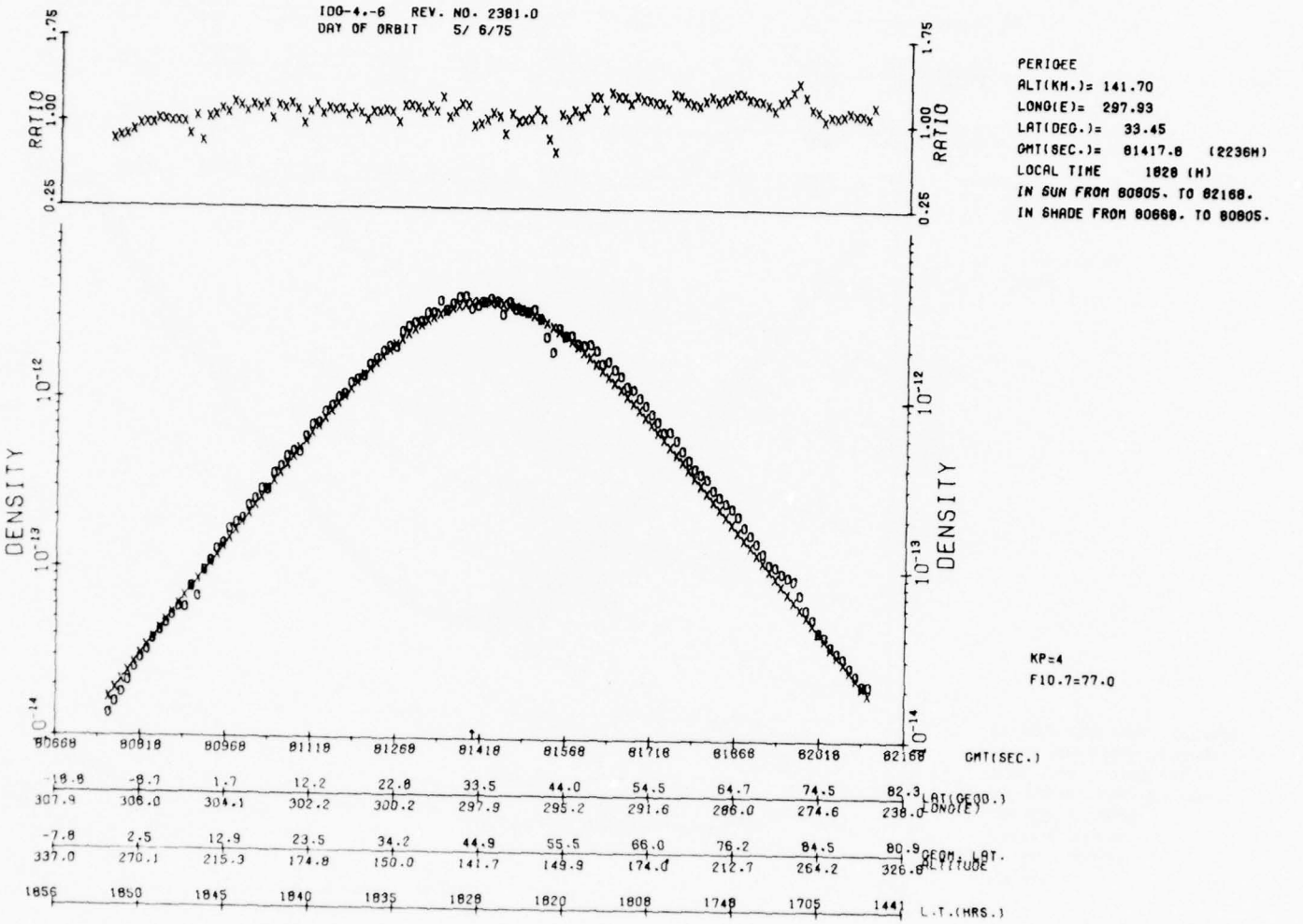

IDG-4.-6 REV. NO. 2373.0
DAY OF ORBIT 5/ 6/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 142.50
LONG(E)= 134.24
LAT(DEG.)= 35.18
GMT(SEC.)= 34250.8 (0930H)
LOCAL TIME 1827 (H)
IN SUN FROM 33542. TO 35000.
IN SHADE FROM 33500. TO 33542.
KP=6
F10.7=77.0
33500 33650 33800 33950 34100 34250 34400 34550 34700 34850 35000
GMT(SEC.)
-17.1 -6.9 3.4 13.9 24.5 35.2 45.8 56.2 66.4 76.0 82.9
LAT(GEOD.)
144.3 142.4 140.5 138.6 136.6 134.2 131.4 127.5 121.4 108.1 61.8
LONG(E)
-26.6 -16.7 -6.6 3.7 14.1 24.5 34.9 45.1 55.0 64.5 72.9
GEOM. LAT.
340.4 272.6 217.1 176.0 150.9 142.5 150.8 175.2 214.4 266.5 329.7
ALTITUDE
1855 1850 1845 1840 1834 1827 1818 1806 1743 1653 1350
L.T.(HRS.)

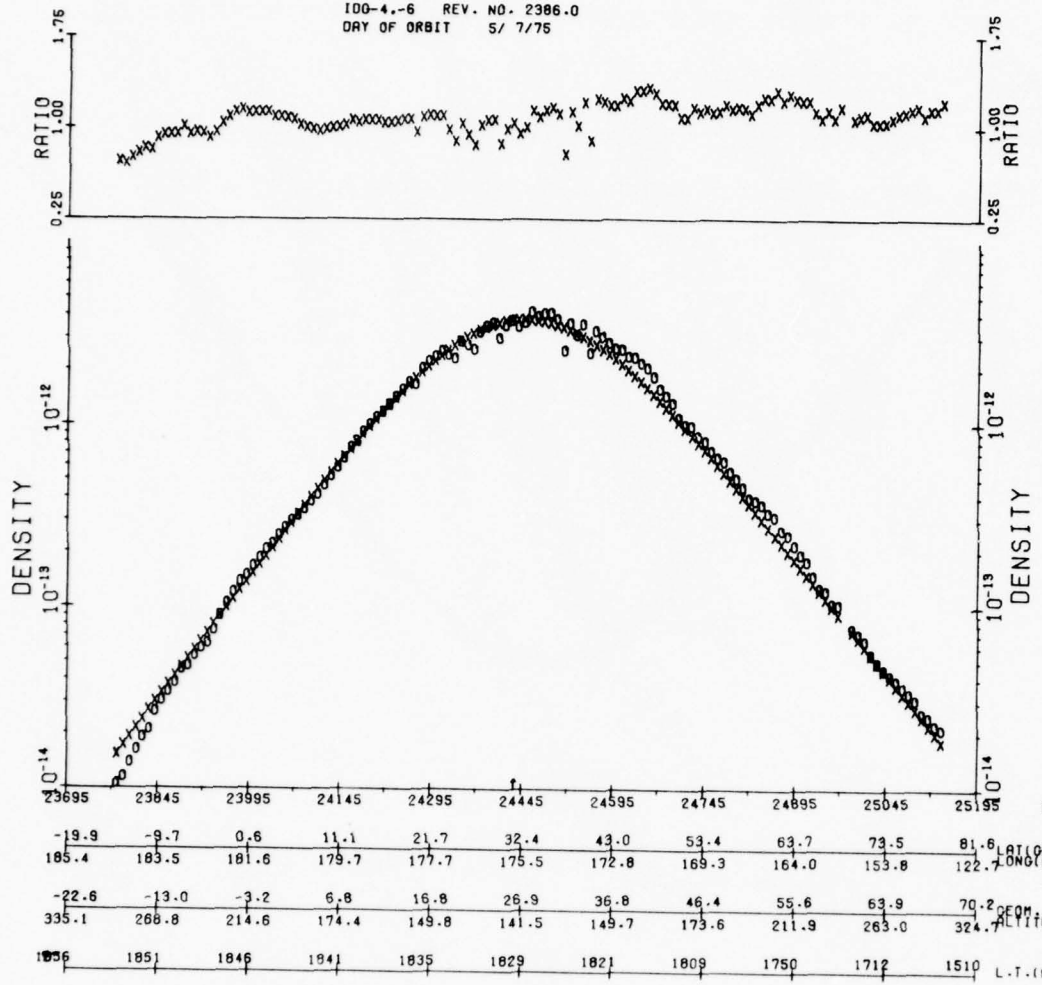


PERIGEE
ALT(KM.)= 142.39
LONG(E)= 85.12
LAT(DEG.)= 34.75
GMT(SEC.)= 46052.2 (1247H)
LOCAL TIME 1828 (H)
IN SUN FROM 45369. TO 46802.
IN SHADE FROM 45302. TO 45369.

KP=6
F10.7=77.0

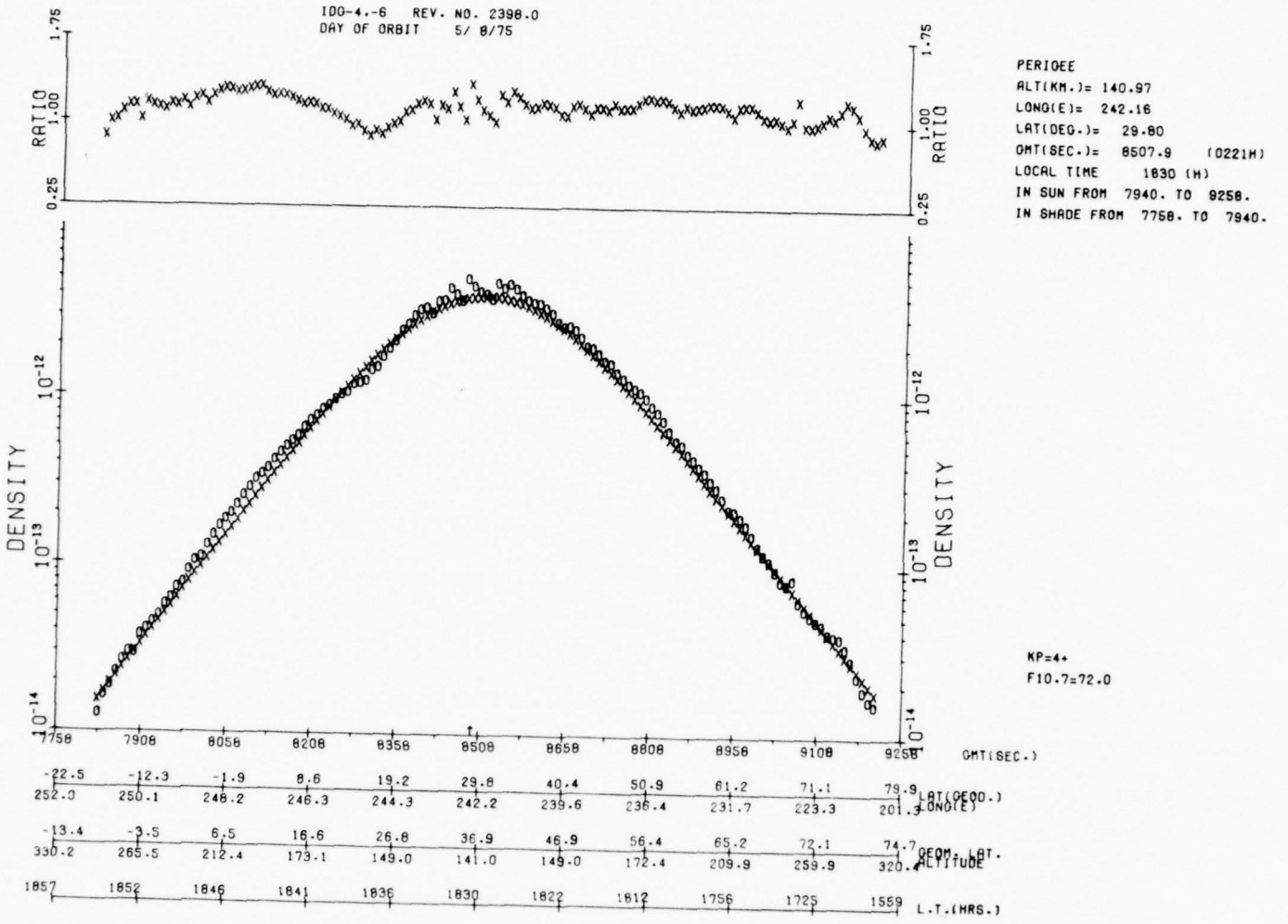

IDG-4.-6 REV. NO. 2377.0
DAY OF ORBIT 5/ 6/75
RATIO
1.75
1.00
0.25
PERIGEE
ALT(KM.)= 142.17
LONG(E)= 36.03
LAT(DEG.)= 34.32
GMT(SEC.)= 57846.9 (1604H)
LOCAL TIME 1828 (H)
IN SUN FROM 57188. TO 58597.
IN SHADE FROM 57097. TO 57188.
DENSITY
10^{-12}
10^{-13}
10^{-14}
KP=4
F10.7=77.0
57097 57247 57397 57547 57697 57847 57997 58147 58297 58447 58597 GMT(SEC.)
-18.0 -7.8 2.6 13.1 23.7 34.3 44.9 55.4 65.6 75.2 82.6 LAT(GEOD.)
46.0 44.1 42.3 40.4 38.3 36.0 33.3 29.5 23.8 11.4 330.3 LONG(E)
-22.5 -12.2 -1.6 9.1 19.8 30.6 41.4 52.1 62.7 73.0 82.6 GEOM. LAT.
338.8 271.4 218.3 175.5 150.5 142.2 150.4 174.7 213.6 265.4 328.2 ALTITUDE
1855 1850 1845 1840 1834 1828 1819 1807 1746 1659 1417 L.T.(HRS.)

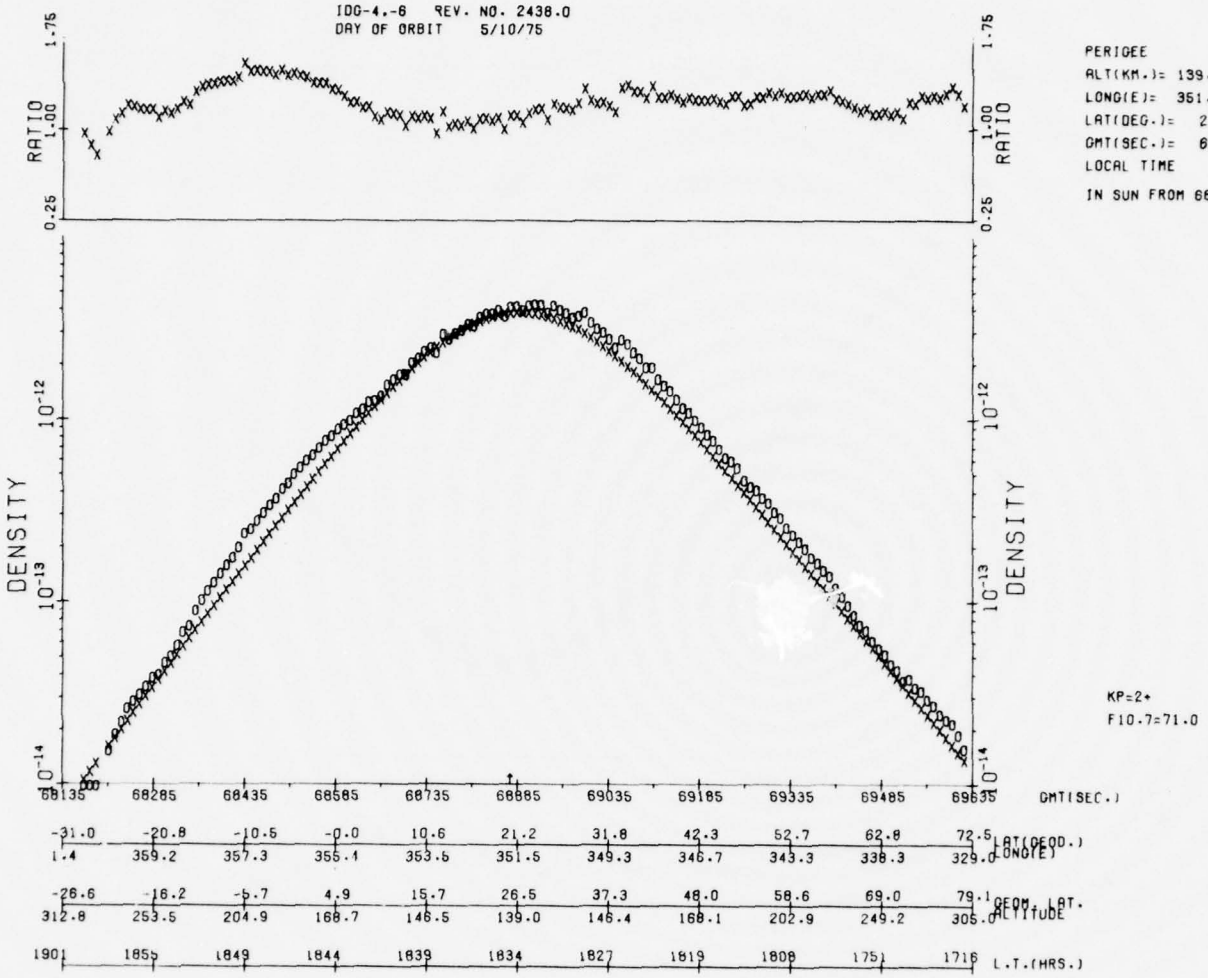

IDO-4.-6 REV. NO. 2381.0
DAY OF ORBIT 5/ 6/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 141.70
LONG(E)= 297.93
LAT(DEG.)= 33.45
GMT(SEC.)= 81417.8 (2236M)
LOCAL TIME 1828 (M)
IN SUN FROM 80805. TO 82168.
IN SHADE FROM 80668. TO 80805.
KP=4
F10.7=77.0
80668 80818 80968 81118 81268 81418 81568 81718 81868 82018 82168 GMT(SEC.)
-18.8 -8.7 1.7 12.2 22.8 33.5 44.0 54.5 64.7 74.5 82.3 LAT(GEOD.)
307.9 306.0 304.1 302.2 300.2 297.9 295.2 291.6 286.0 274.6 238.0 LONG(E)
-7.8 2.5 12.9 23.5 34.2 44.9 55.5 66.0 76.2 84.5 80.9 GEOM. LAT.
337.0 270.1 215.3 174.8 150.0 141.7 149.9 174.0 212.7 264.2 326.8 ALTITUDE
1856 1850 1845 1840 1835 1828 1820 1808 1748 1705 1441 L.T.(HRS.)



PERIGEE
ALT(KM.)= 141.55
LONG(E)= 175.45
LAT(DEG.)= 32.36
GMT(SEC.)= 24444.9 (0647H)
LOCAL TIME 1829 (H)
IN SUN FROM 23818. TO 25195.
IN SHADE FROM 23695. TO 23818.

KP=4
F10.7=75.0

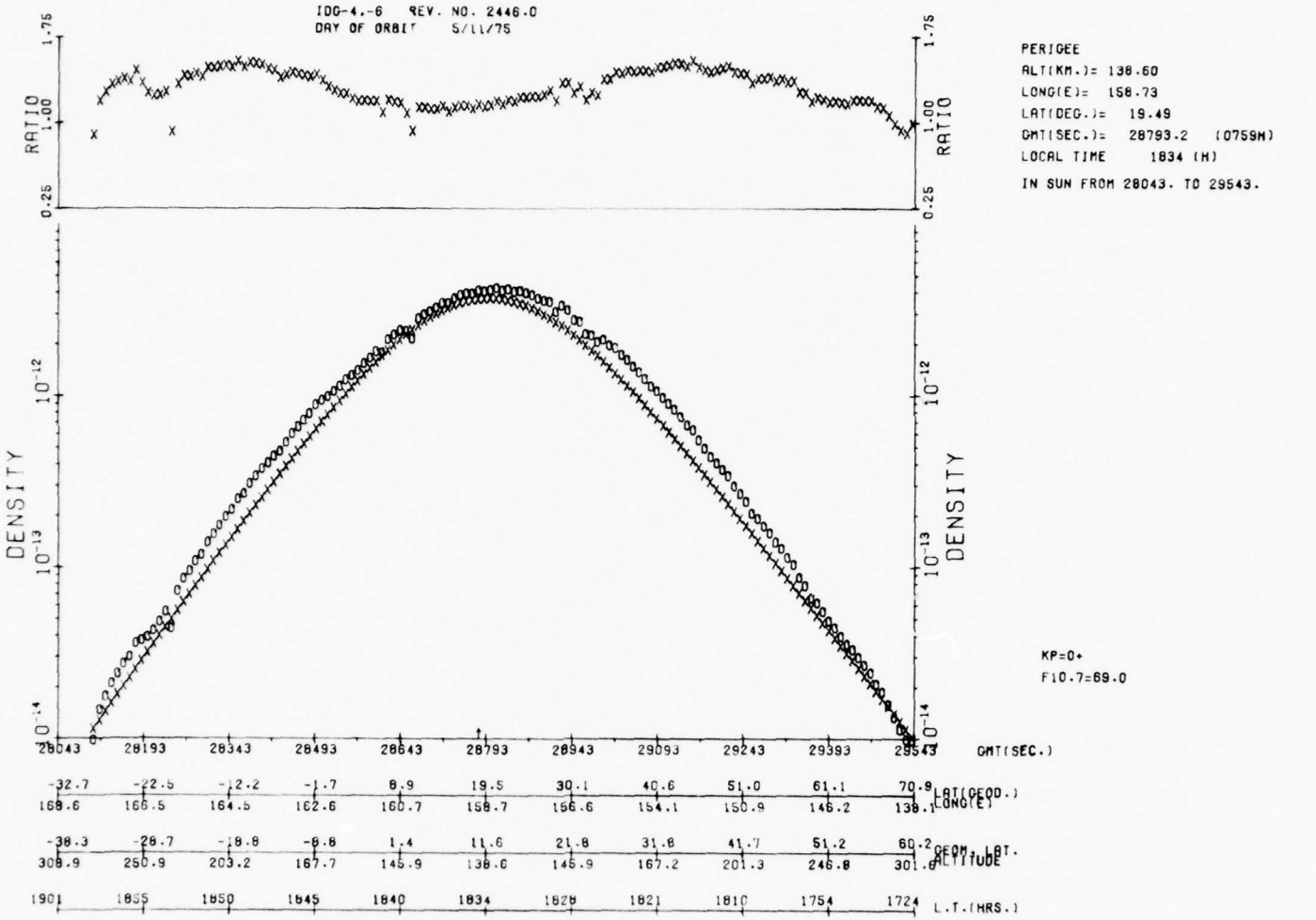

IDG-4.-6 REV. NO. 2398.0
DAY OF ORBIT 5/ 8/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 140.97
LONG(E)= 242.16
LAT(DEG.)= 29.80
GMT(SEC.)= 8507.9 (0221H)
LOCAL TIME 1830 (H)
IN SUN FROM 7940. TO 9258.
IN SHADE FROM 7758. TO 7940.
KP=4+
F10.7=72.0
7758 7908 8058 8208 8358 8508 8658 8808 8958 9108 9258 GMT(SEC.)
-22.5 -12.3 -1.9 8.6 19.2 29.8 40.4 50.9 61.2 71.1 79.9 LAT(GEOD.)
252.0 250.1 248.2 246.3 244.3 242.2 239.6 236.4 231.7 223.3 201.3 LONG(E)
-13.4 -3.5 6.5 16.6 26.8 36.9 46.9 56.4 65.2 72.1 74.7 GEOM. LAT.
330.2 265.5 212.4 173.1 149.0 141.0 149.0 172.4 209.9 259.9 320.4 ALTITUDE
1857 1852 1846 1841 1836 1830 1822 1812 1756 1725 1559 L.T.(HRS.)

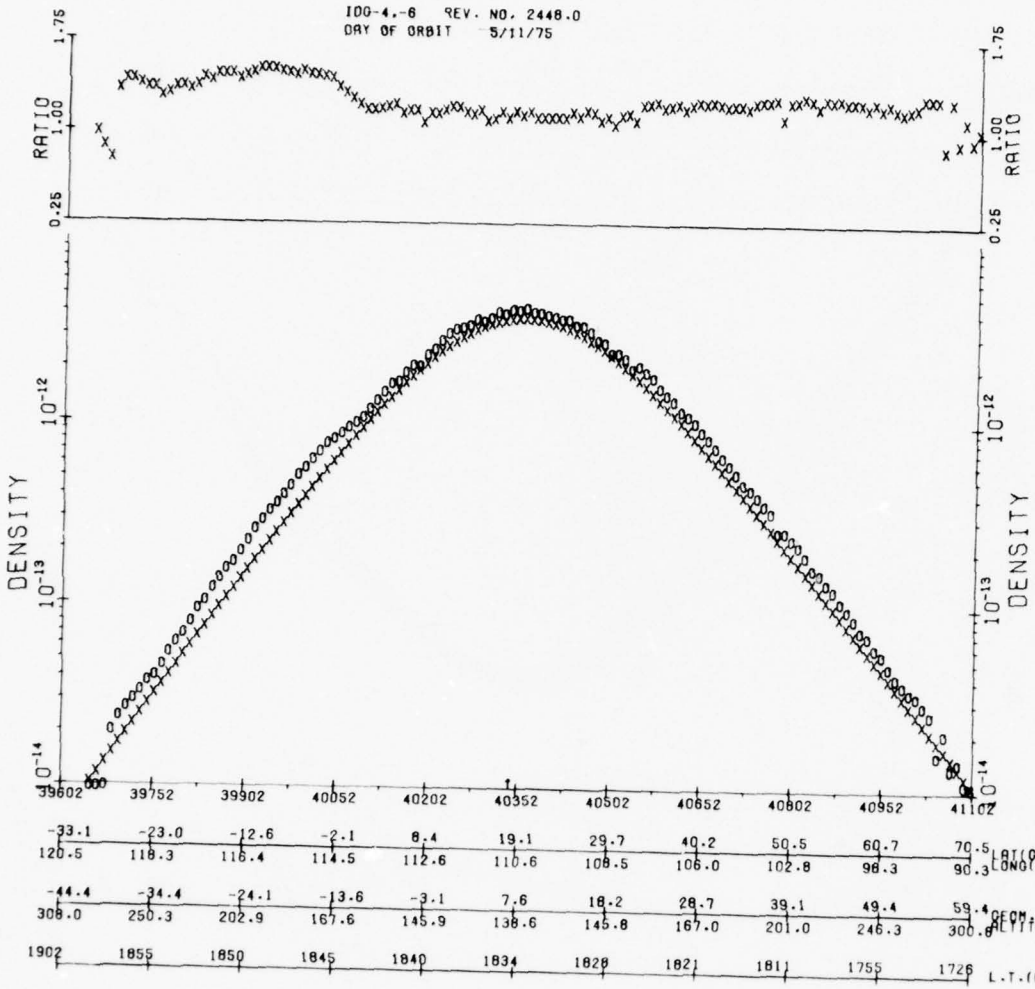


PERIGEE
ALT(KM.)= 139.04
LONG(E)= 351.51
LAT(DEG.)= 21.21
GMT(SEC.)= 68885.5 (1908M)
LOCAL TIME 1834 (M)

IN SUN FROM 68135. TO 69635.

KP=2+
F10.7=71.0

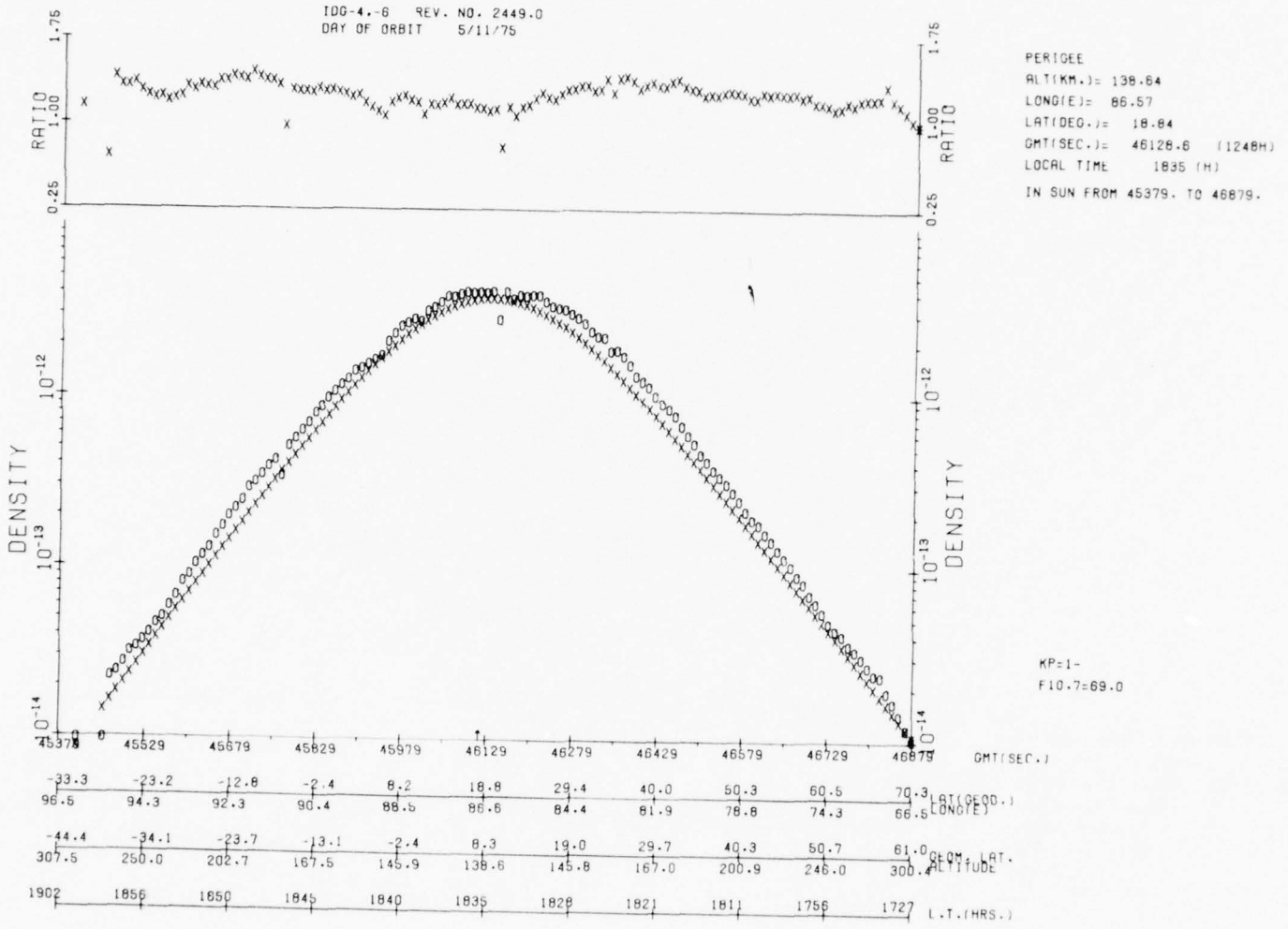

IDG-4.-6 REV. NO. 2446.0
DAY OF ORBIT 5/11/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 138.60
LONG(E)= 158.73
LAT(DEG.)= 19.49
GMT(SEC.)= 28793.2 (0759M)
LOCAL TIME 1834 (H)
IN SUN FROM 28043. TO 29543.
KP=0+
F10.7=69.0
28043 28193 28343 28493 28643 28793 28943 29093 29243 29393 29543 GMT(SEC.)
-32.7 -22.5 -12.2 -1.7 8.9 19.5 30.1 40.6 51.0 61.1 70.9 LAT(GEOD.)
168.6 166.5 164.5 162.6 160.7 158.7 156.6 154.1 150.9 146.2 139.1 LONG(E)
-38.3 -28.7 -18.8 -8.8 1.4 11.6 21.8 31.8 41.7 51.2 60.2 GEOM. LAT.
308.9 250.9 203.2 167.7 145.9 138.0 145.9 167.2 201.3 246.8 301.6 ALTITUDE
1901 1855 1850 1845 1840 1834 1828 1821 1810 1754 1724 L.T.(HRS.)

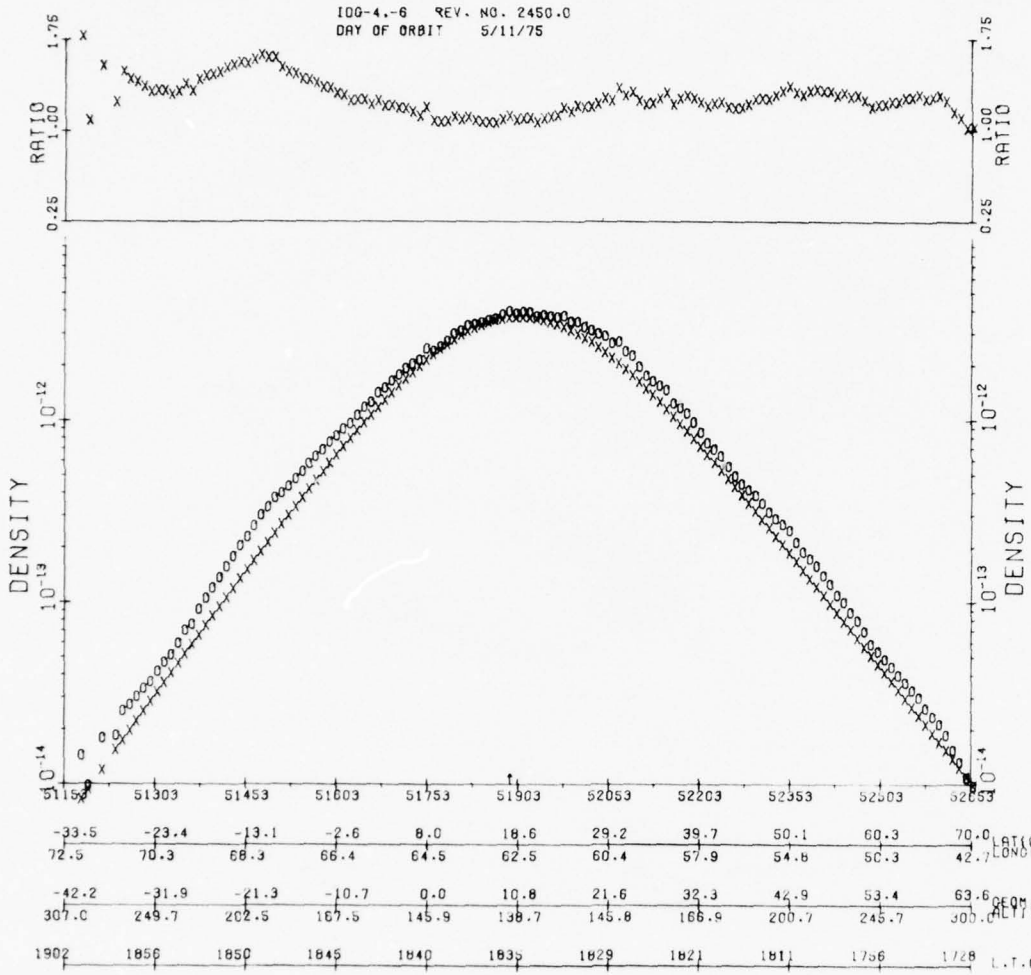


PERIGEE
ALT(KM.)= 138.63
LONG(E)= 110.62
LAT(DEG.)= 19.08
GMT(SEC.)= 40351.9 (1112H)
LOCAL TIME 1834 (H)

IN SUN FROM 39602. TO 41102.

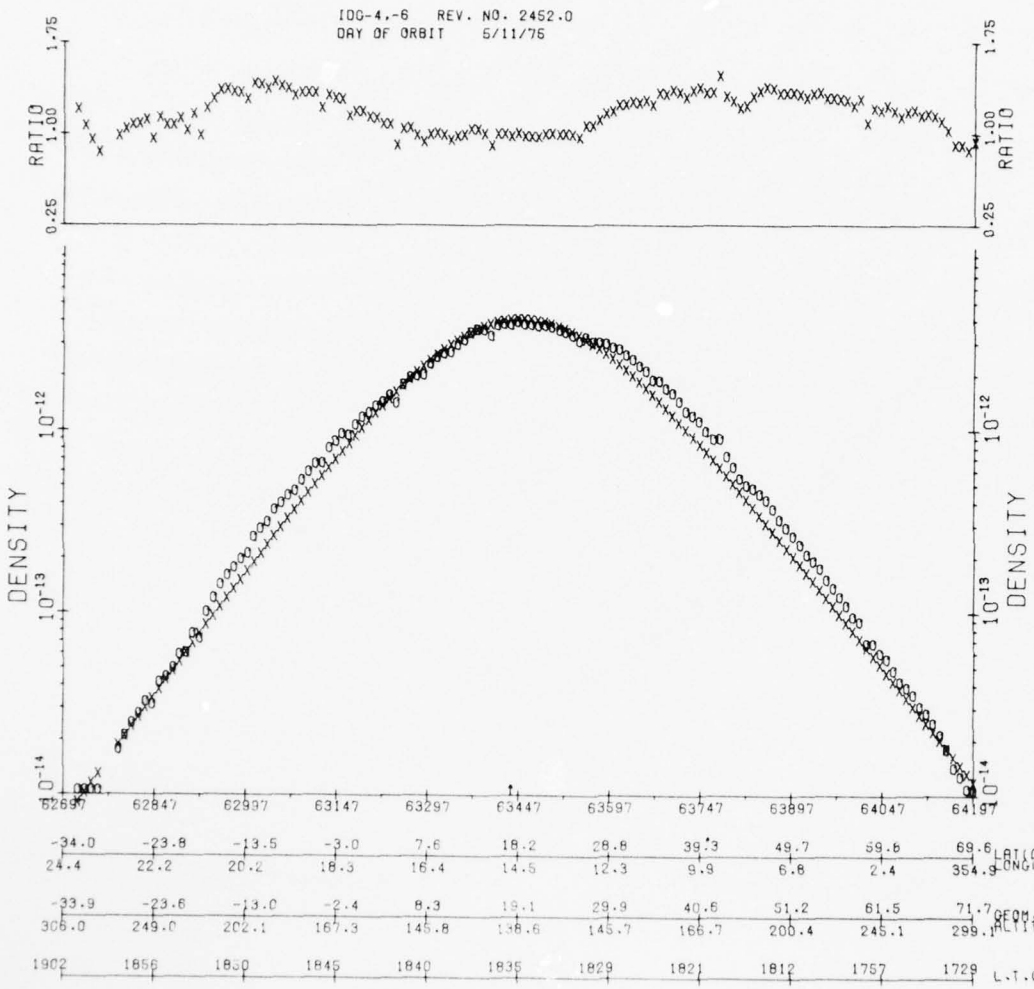
KP=1-
F10.7=69.0


IDG-4.-6 REV. NO. 2449.0
DAY OF ORBIT 5/11/75
RATIO
1.75
1.00
0.25
DENSITY
10-12
10-13
10-14
PERIGEE
ALT(KM.)= 138.64
LONG(E)= 86.57
LAT(DEG.)= 18.84
GMT(SEC.)= 46128.6 (1248H)
LOCAL TIME 1835 (H)
IN SUN FROM 45379. TO 46879.
KP=1-
F10.7=69.0
45379 45529 45679 45829 45979 46129 46279 46429 46579 46729 46879 GMT(SEC.)
-33.3 -23.2 -12.8 -2.4 8.2 18.8 29.4 40.0 50.3 60.5 70.3 LAT(GEOD.)
96.5 94.3 92.3 90.4 88.5 86.6 84.4 81.9 78.8 74.3 66.5 LONG(E)
-44.4 -34.1 -23.7 -13.1 -2.4 8.3 19.0 29.7 40.3 50.7 61.0 GEOM. LAT.
307.5 250.0 202.7 167.5 145.9 138.6 145.8 167.0 200.9 246.0 300.4 ALTITUDE
1902 1856 1850 1845 1840 1835 1828 1821 1811 1756 1727 L.T.(HRS.)



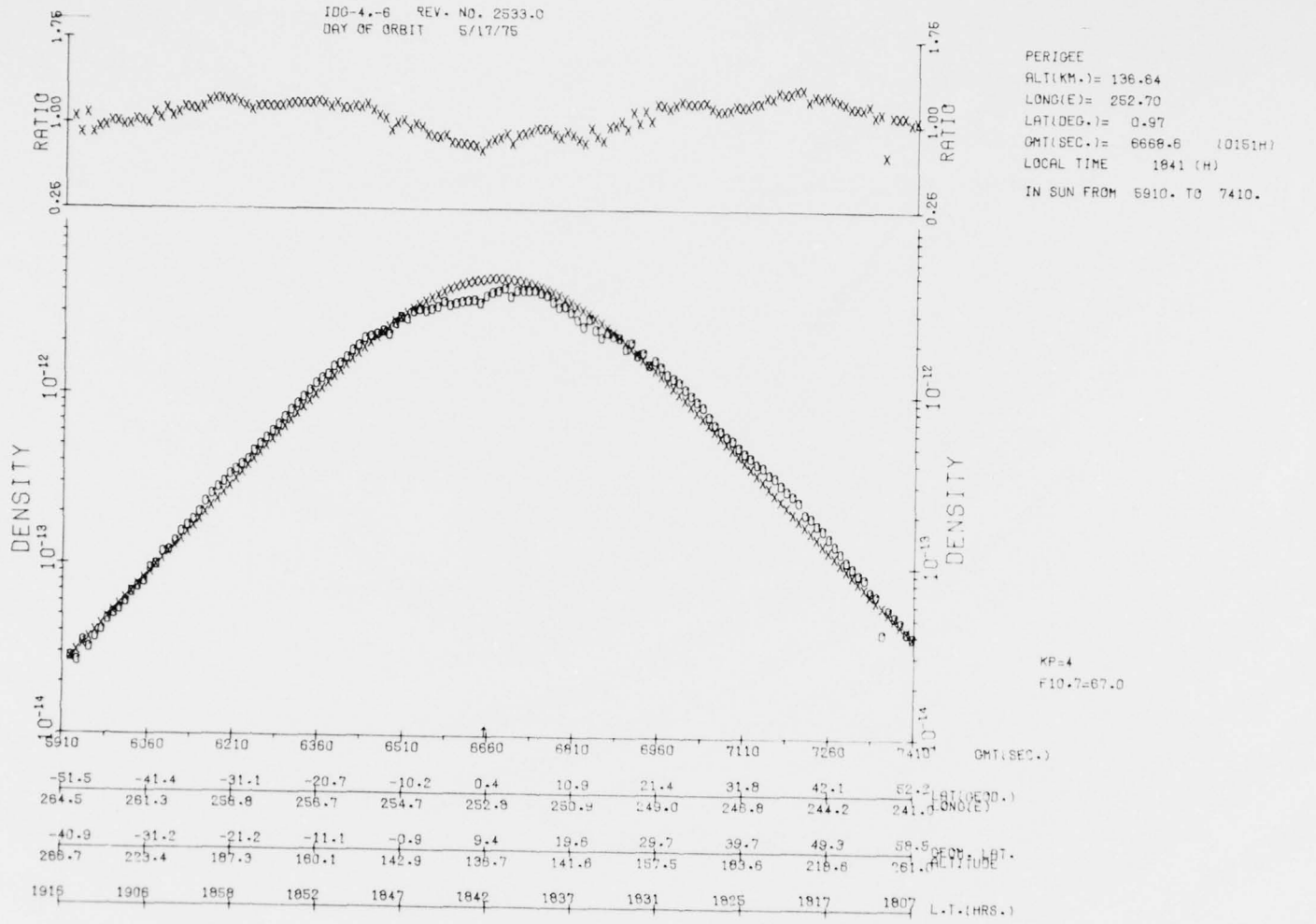
PERIGEE
ALT(KM.)= 138.65
LONG(E)= 62.53
LAT(DEG.)= 18.62
GMT(SEC.)= 51903.5 (1425M)
LOCAL TIME 1835 (M)
IN SUN FROM 51153. TO 52653.

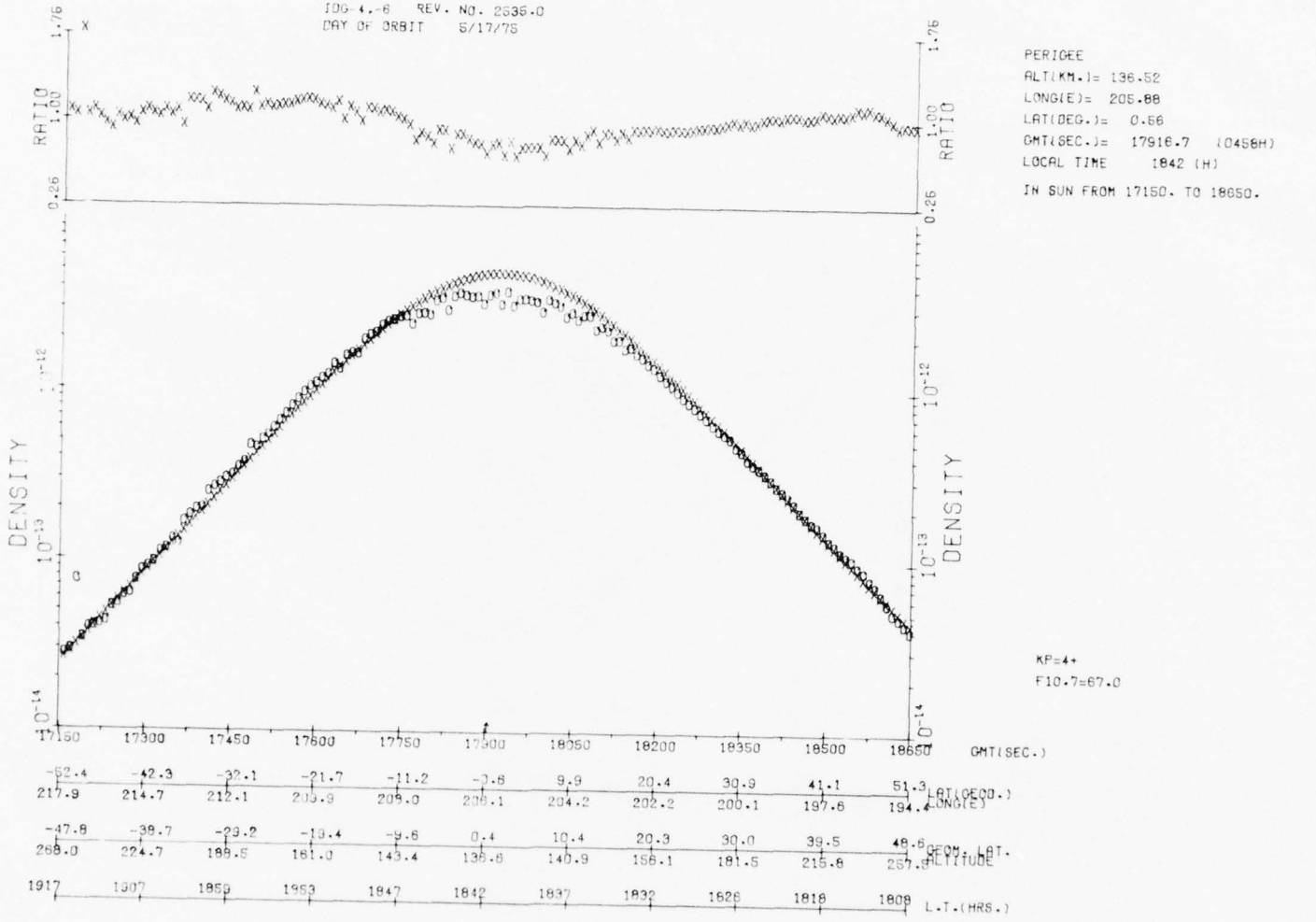
KP=0+
F10.7=69.0

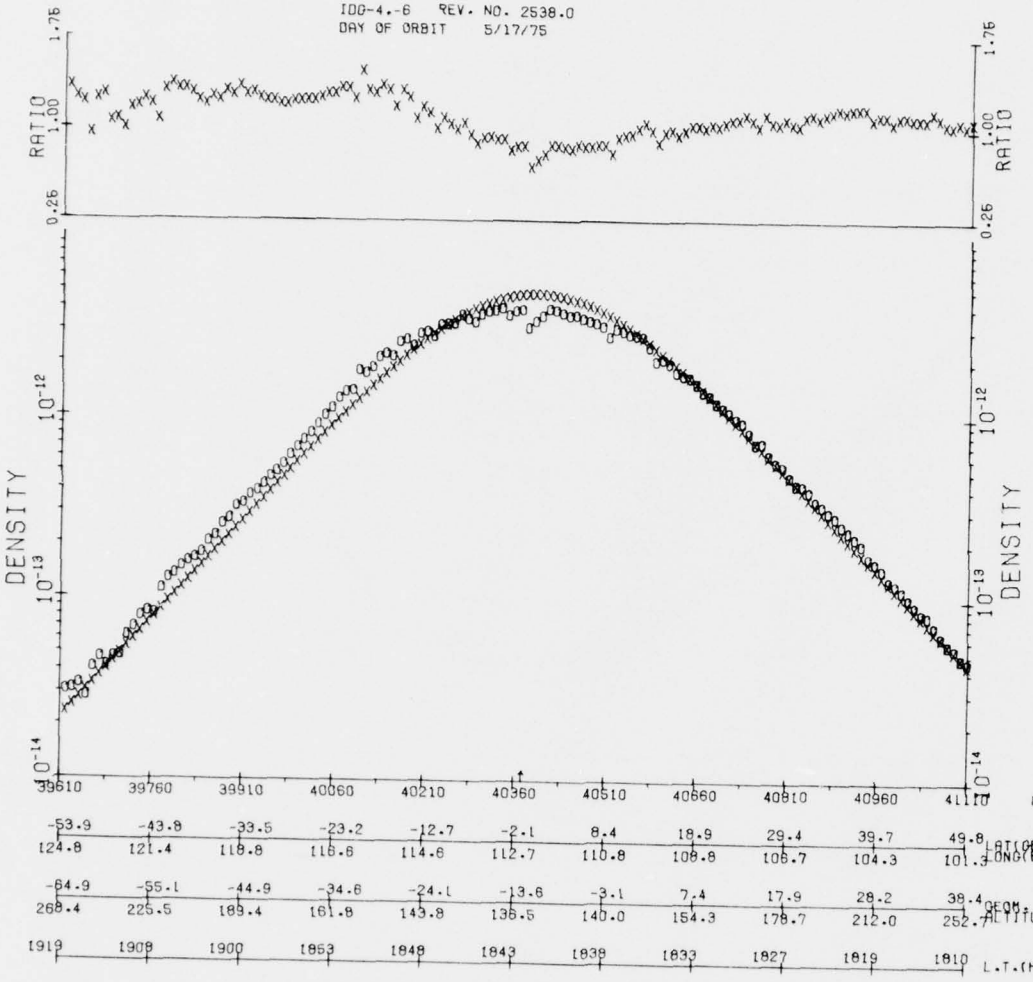


PERIGEE
ALT(KM.)= 138.60
LONG(E)= 14.47
LAT(DEG.)= 18.20
GMT(SEC.)= 63447.4 (1737H)
LOCAL TIME 1835 (H)
IN SUN FROM 62697. TO 64197.

KP=1-
F10.7=69.0


IDG-4.-6 REV. NO. 2533.0
DAY OF ORBIT 5/17/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 136.64
LONG(E)= 252.70
LAT(DEG.)= 0.97
GMT(SEC.)= 6668.6 (0151H)
LOCAL TIME 1841 (H)
IN SUN FROM 5910. TO 7410.
KP=4
F10.7=67.0
5910 6060 6210 6360 6510 6660 6810 6960 7110 7260 7410 GMT(SEC.)
-51.5 -41.4 -31.1 -20.7 -10.2 0.4 10.9 21.4 31.8 42.1 52.2 LAT(DEG.)
284.5 261.3 238.8 256.7 254.7 252.8 250.9 249.0 246.8 244.2 241.0 LONG(E)
-40.9 -31.2 -21.2 -11.1 -0.9 9.4 19.6 29.7 39.7 49.3 58.5 GEOG. LAT.
288.7 223.4 187.3 160.1 142.9 135.7 141.6 157.5 183.6 218.8 261.0 ALTITUDE
1915 1906 1858 1852 1847 1842 1837 1831 1825 1817 1807 L.T.(HRS.)

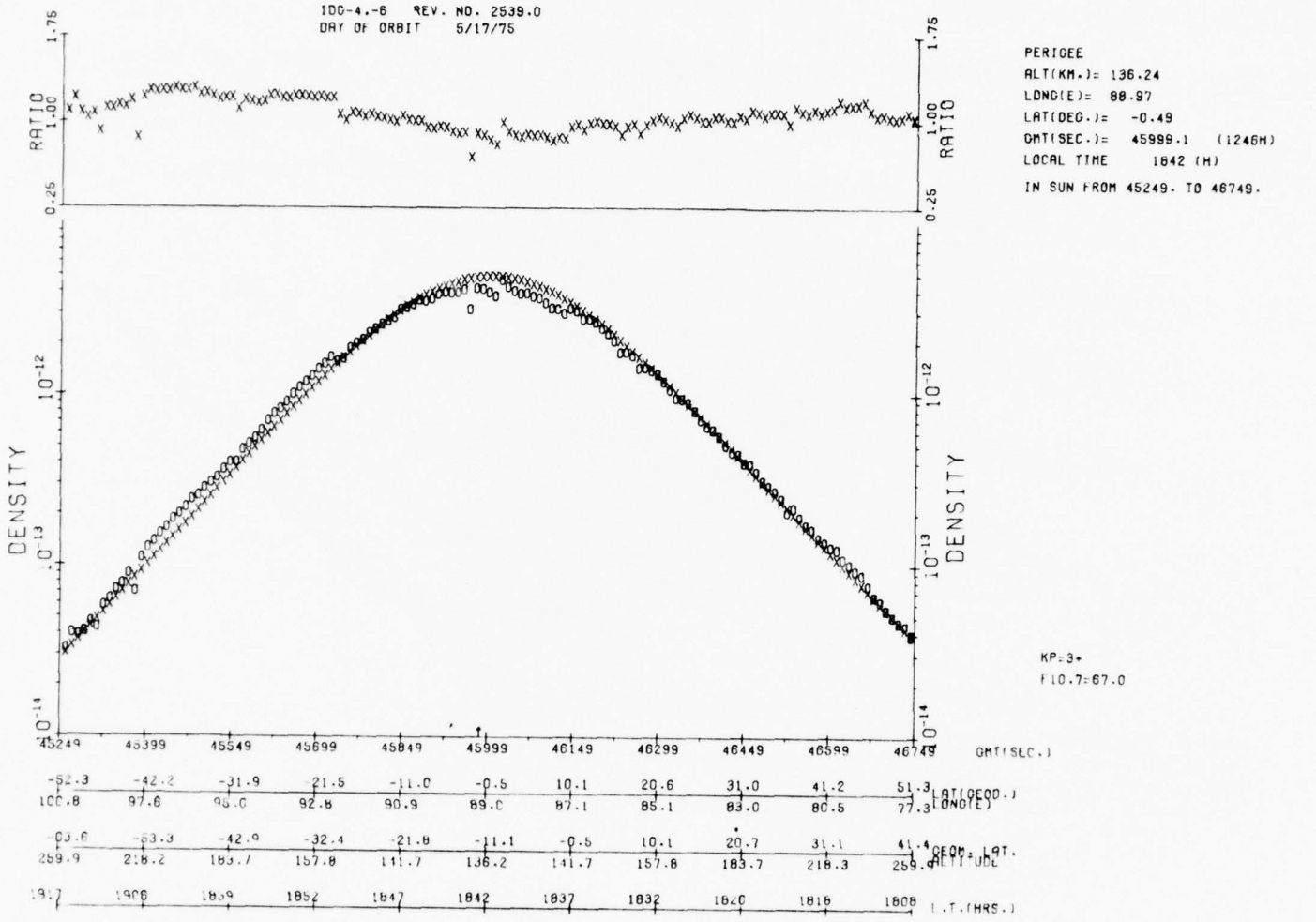

IDG-4.-6 REV. NO. 2535.0
DAY OF ORBIT 5/17/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 136.52
LONG(E)= 205.88
LAT(DEG.)= 0.66
GMT(SEC.)= 17910.7 (0458M)
LOCAL TIME 1842 (H)
IN SUN FROM 17150. TO 18650.
KP=4+
F10.7=67.0
17150 17300 17450 17600 17750 17900 18050 18200 18350 18500 18650 GMT(SEC.)
-62.4 -42.3 -32.1 -21.7 -11.2 -0.8 9.9 20.4 30.9 41.1 51.3 LAT(GEOD.)
217.9 214.7 212.1 209.9 209.0 208.1 204.2 202.2 200.1 197.8 194.4 LONG(E)
-47.8 -38.7 -29.2 -18.4 -9.6 0.4 10.4 20.3 30.0 39.5 48.6 GEOM. LAT.
268.0 224.7 188.5 161.0 143.4 136.8 140.9 156.1 181.5 215.8 257.8 ALTITUDE
1917 1907 1859 1853 1847 1842 1837 1832 1826 1818 1808 L.T.(HRS.)

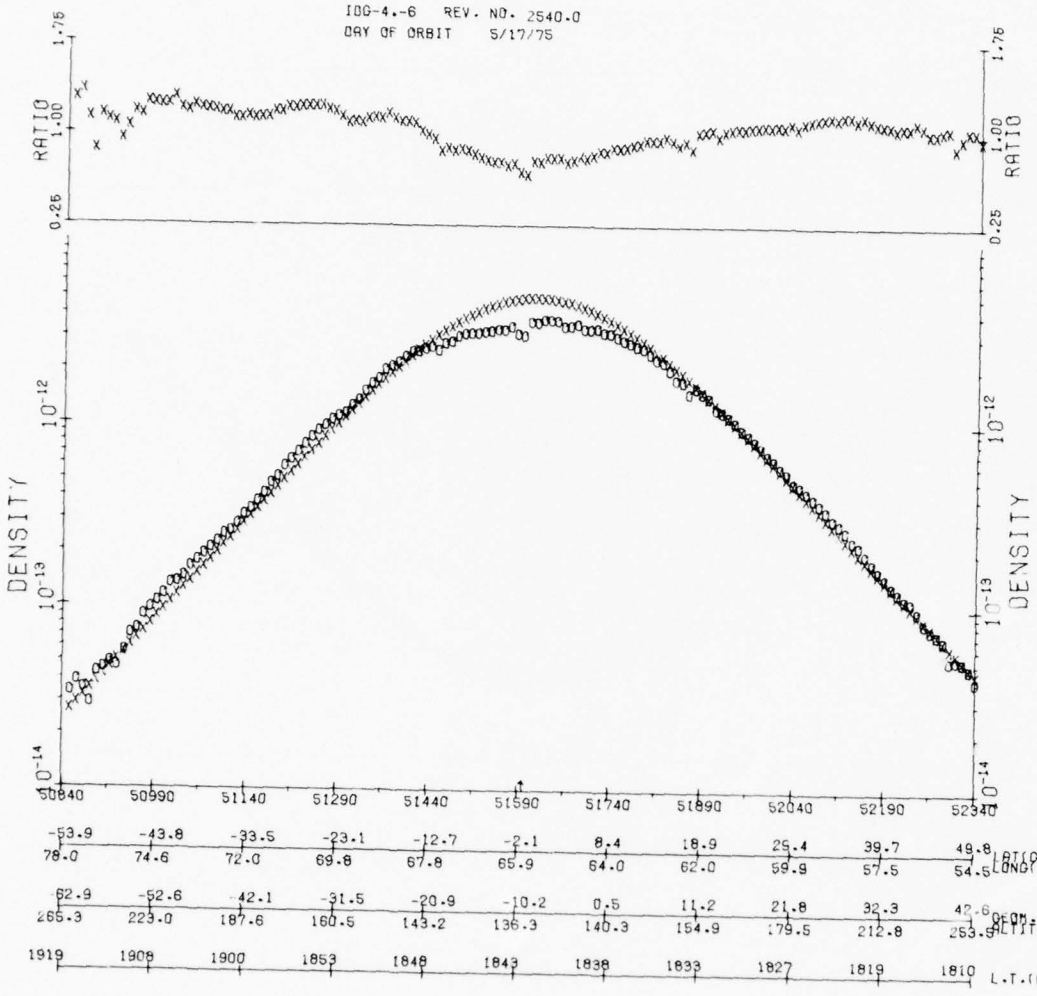


PERIGEE
ALT(KM.)= 136.29
LONG(E)= 112.34
LAT(DEG.)= -0.28
GMT(SEC.)= 40386.2 (1113H)
LOCAL TIME 1842 (H)

IN SUN FROM 39610. TO 41110.

KP=3+
F10.7=87.0

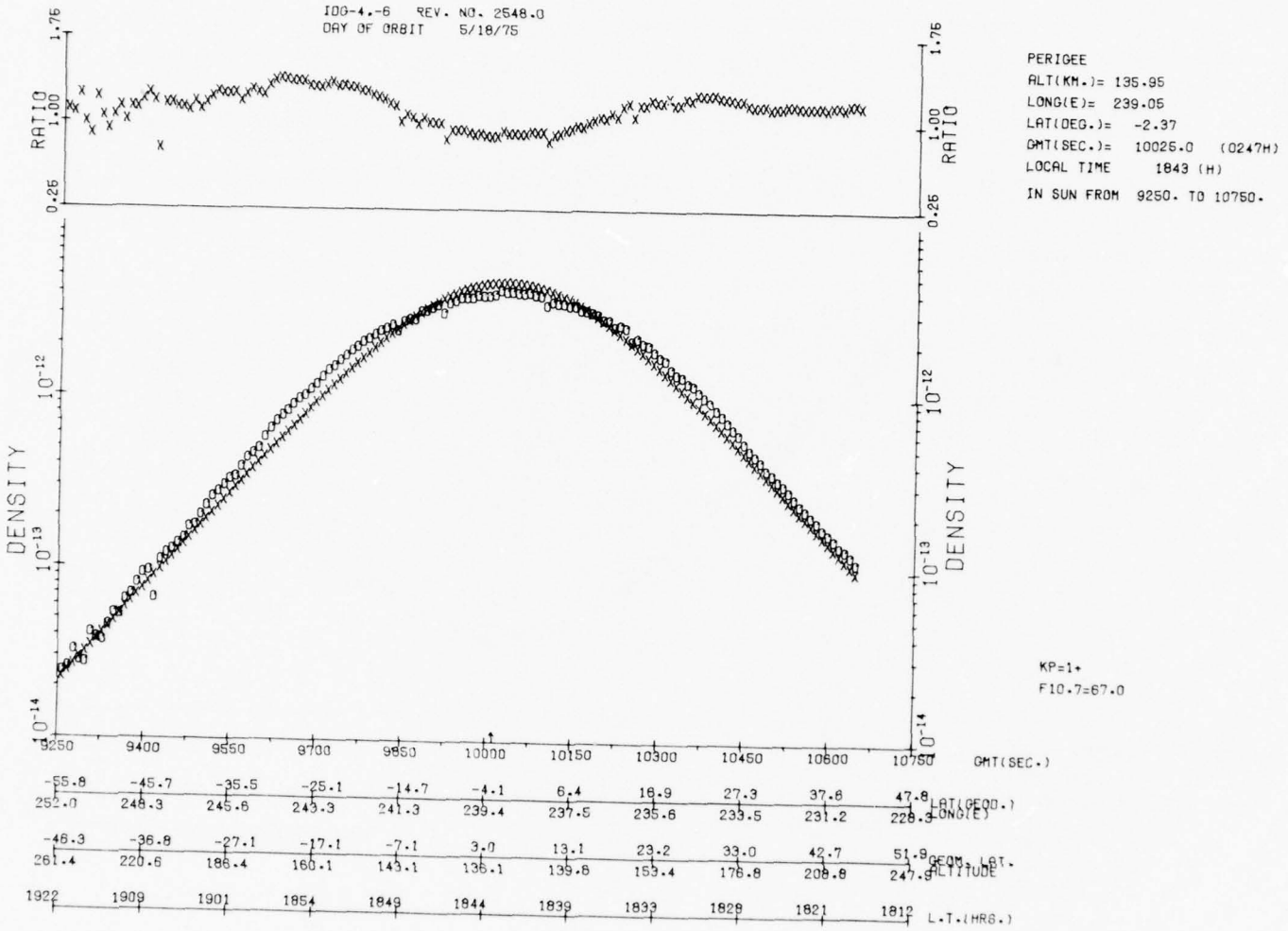

IDC-4.-6 REV. NO. 2539.0
DAY OF ORBIT 5/17/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 136.24
LONG(E)= 88.97
LAT(DEG.)= -0.49
GMT(SEC.)= 45999.1 (1246H)
LOCAL TIME 1842 (H)
IN SUN FROM 45249. TO 46749.
KP=3+
F10.7=67.0
45249 45399 45549 45699 45849 45999 46149 46299 46449 46599 46749 GMT(SEC.)
-52.3 -42.2 -31.9 -21.5 -11.0 -0.5 10.1 20.6 31.0 41.2 51.3 LAT(GEOD.)
100.8 97.6 95.0 92.8 90.9 89.0 87.1 85.1 83.0 80.5 77.3 LONG(E)
-63.6 -53.3 -42.9 -32.4 -21.8 -11.1 -0.5 10.1 20.7 31.1 41.4 GEOM. LAT.
259.9 218.2 183.7 157.8 141.7 136.2 141.7 157.8 183.7 218.3 259.9 ALT.(GDL
1917 1908 1859 1852 1847 1842 1837 1832 1826 1818 1808 L.T.(HRS.)

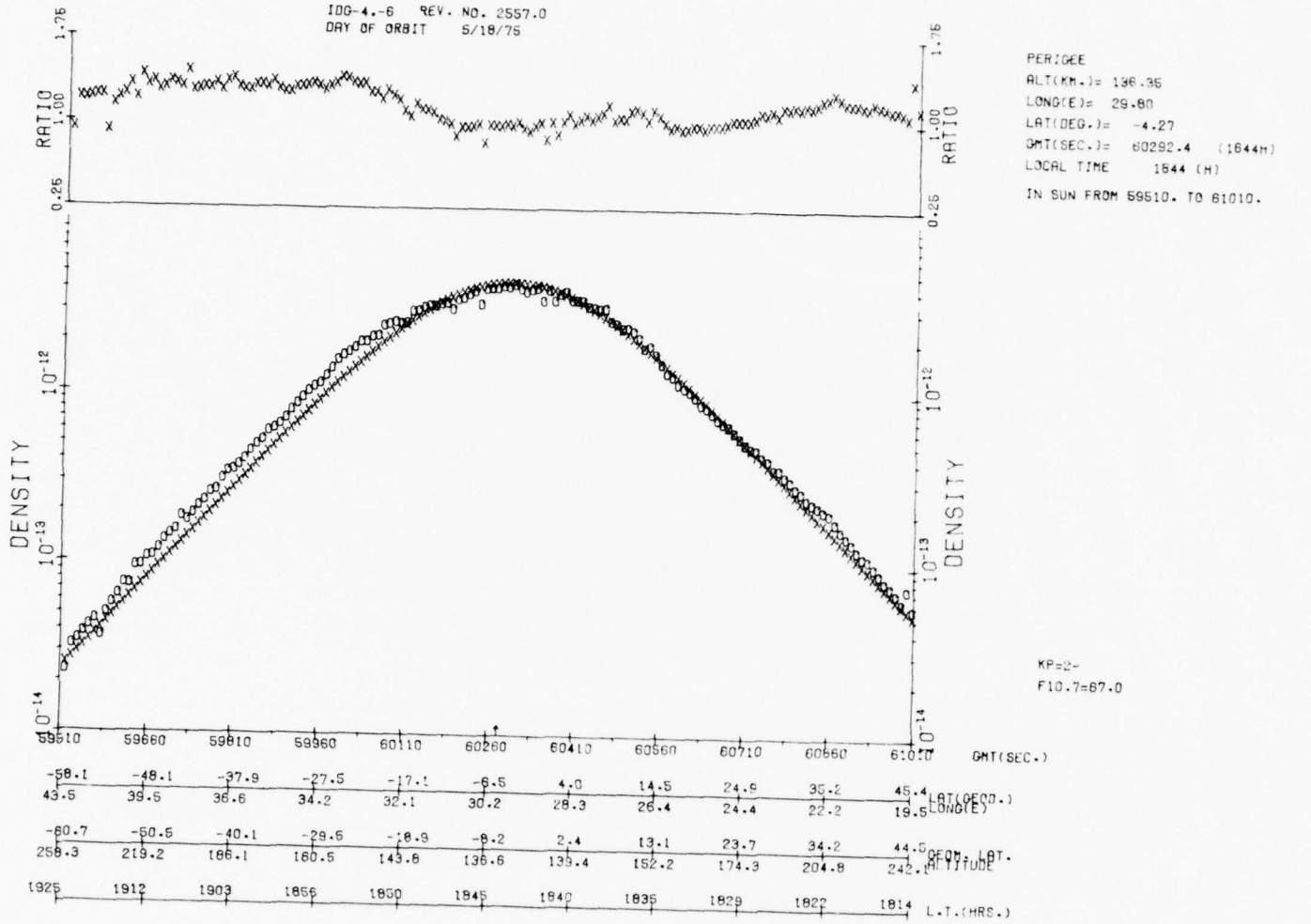


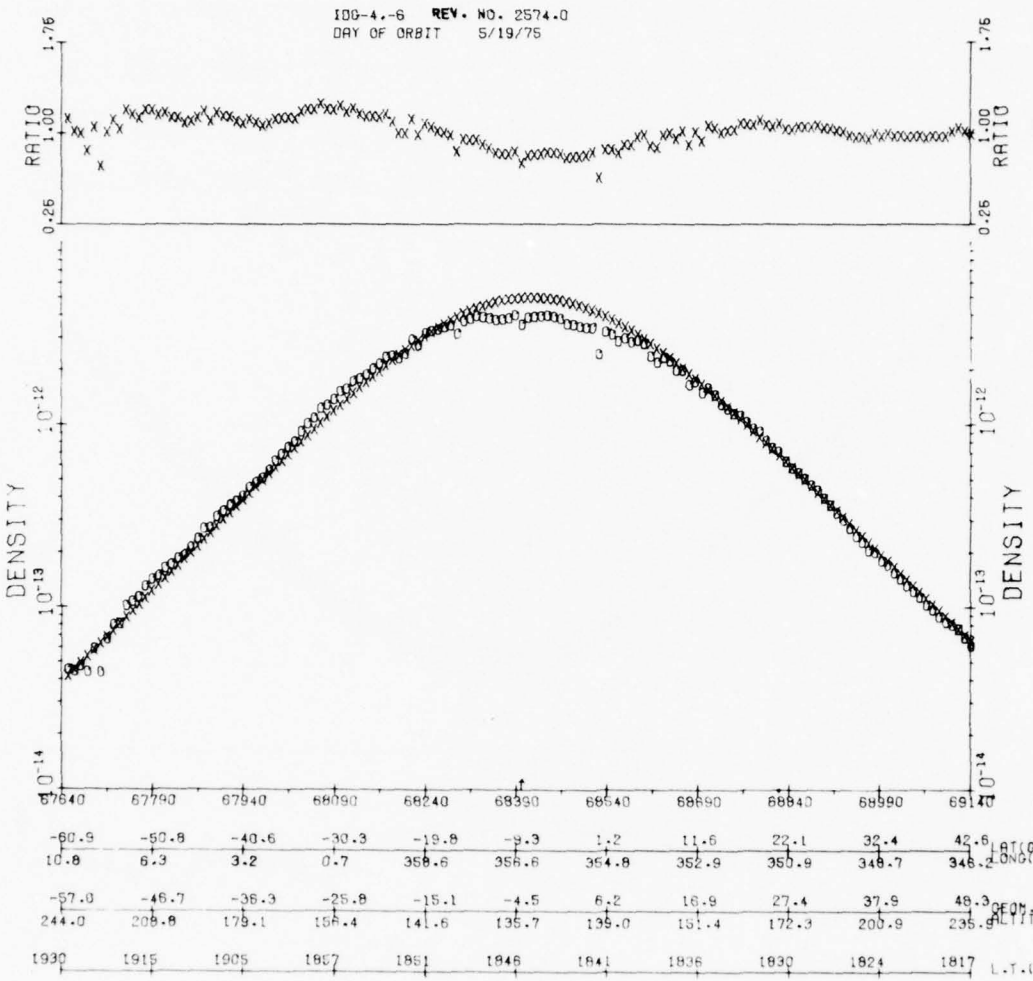
PERIGEE
ALT(KM.)= 136.18
LONG(E)= 65.61
LAT(DEG.)= -0.70
GMT(SEC.)= 51610.1 (1420H)
LOCAL TIME 1842 (H)

IN SUN FROM 50840. TO 52340.

KP=3+
F10.7=67.0

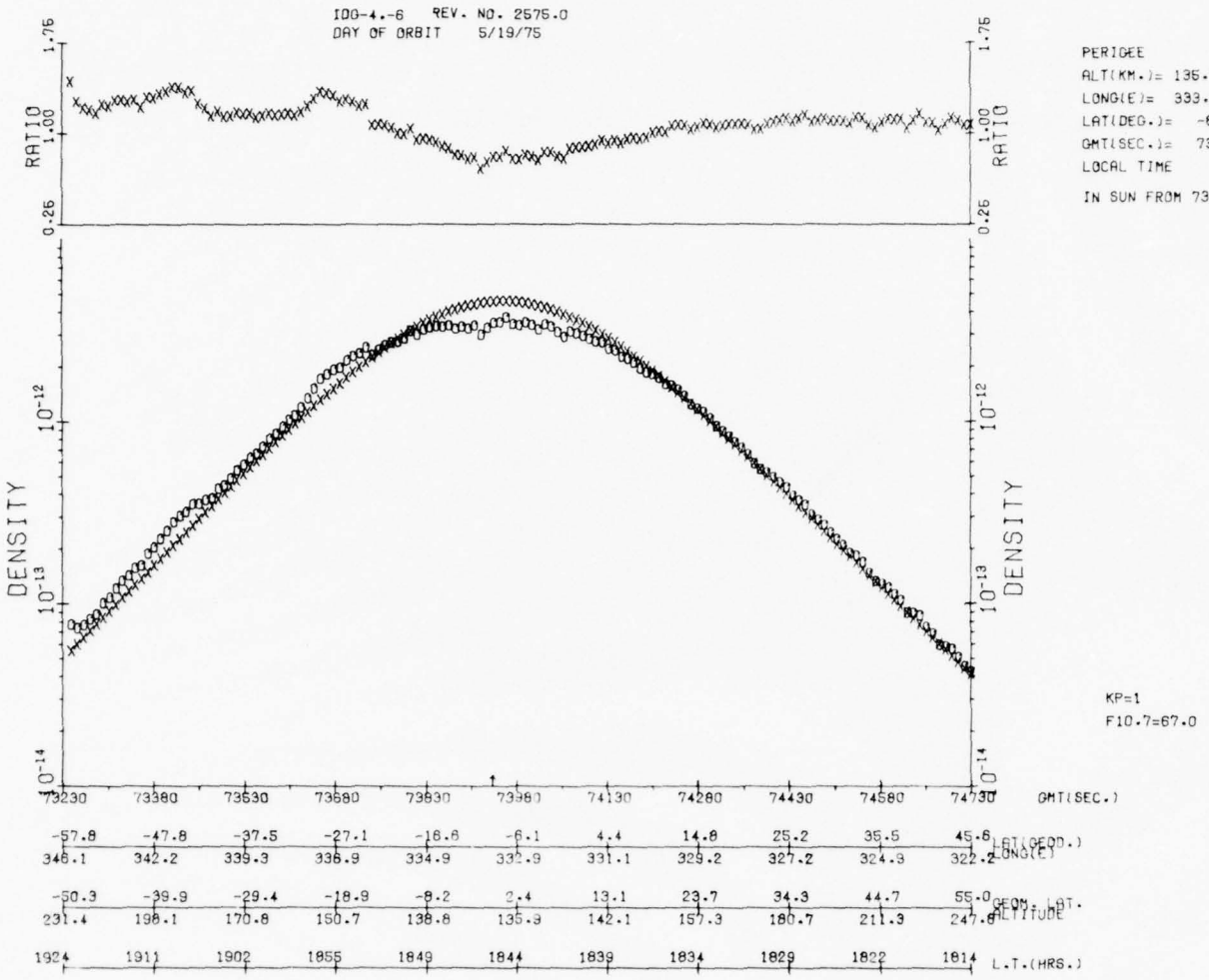

IDG-4.-6 REV. NO. 2548.0
DAY OF ORBIT 5/18/75
RATIO
1.76
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 135.95
LONG(E)= 239.05
LAT(DEG.)= -2.37
GMT(SEC.)= 10025.0 (0247H)
LOCAL TIME 1843 (H)
IN SUN FROM 9250. TO 10750.
KP=1+
F10.7=67.0
9250 9400 9550 9700 9850 10000 10150 10300 10450 10600 10750 GMT(SEC.)
-55.8 -45.7 -35.5 -25.1 -14.7 -4.1 6.4 16.9 27.3 37.8 47.8 LAT(GEOD.)
252.0 248.3 245.6 243.3 241.3 239.4 237.5 235.6 233.5 231.2 228.3 LONG(E)
-46.3 -36.8 -27.1 -17.1 -7.1 3.0 13.1 23.2 33.0 42.7 51.9 GEOM. LAT.
261.4 220.6 186.4 160.1 143.1 136.1 139.8 153.4 176.8 208.8 247.5 ALTITUDE
1922 1909 1901 1854 1849 1844 1839 1833 1829 1821 1812 L.T.(HRS.)

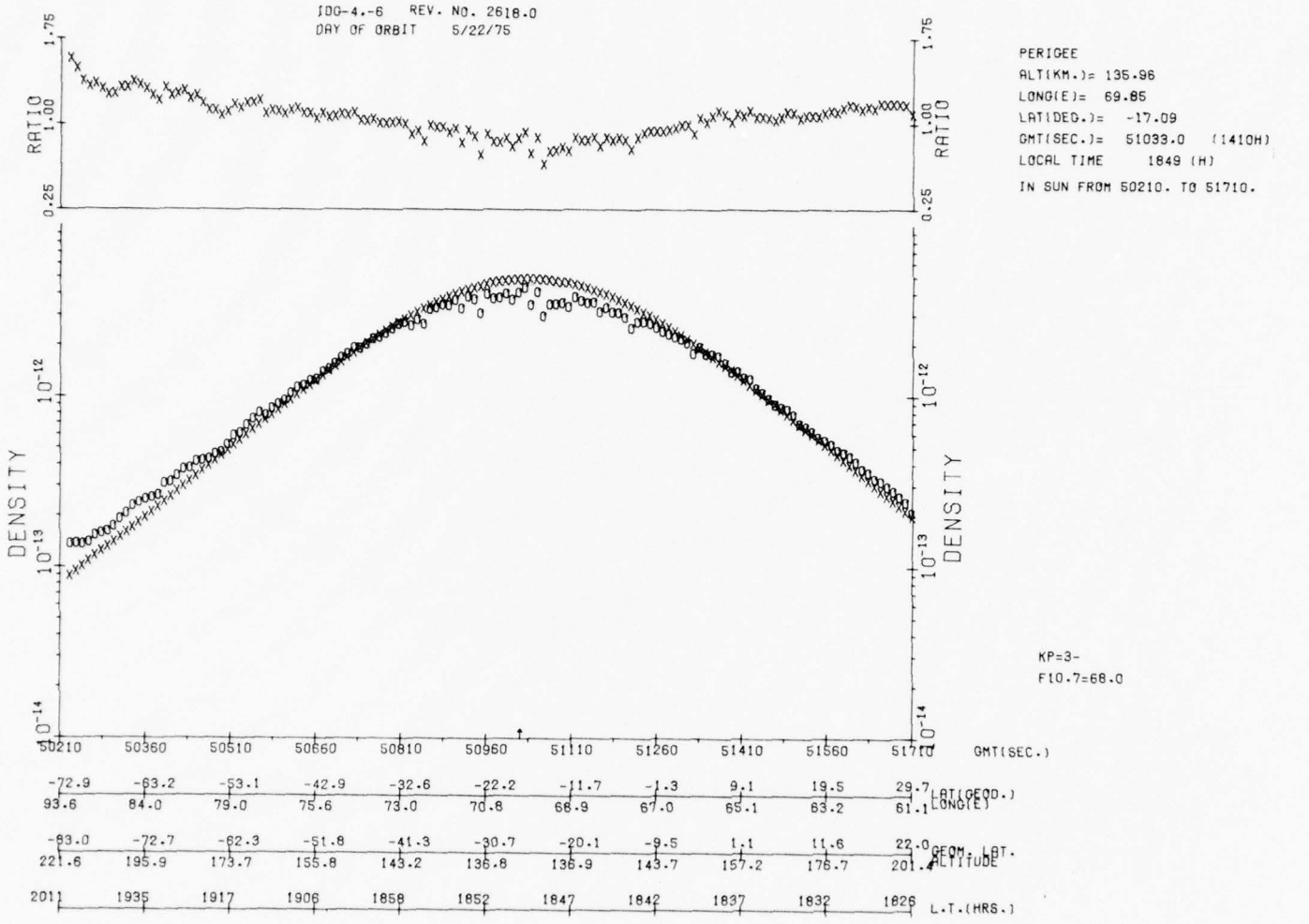

IDG-4.-6 REV. NO. 2557.0
DAY OF ORBIT 5/18/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 136.35
LONG(E)= 29.80
LAT(DEG.)= -4.27
GMT(SEC.)= 60292.4 (1644H)
LOCAL TIME 1644 (H)
IN SUN FROM 59510. TO 61010.
KP=2-
F10.7=67.0
59510 59660 59810 59960 60110 60260 60410 60560 60710 60860 61010
GMT(SEC.)
-58.1 -48.1 -37.9 -27.5 -17.1 -6.5 4.0 14.5 24.9 35.2 45.4
43.5 39.5 36.6 34.2 32.1 30.2 28.3 26.4 24.4 22.2 19.5
LAT(GEOG.)
LONG(E)
-60.7 -50.5 -40.1 -29.6 -18.9 -8.2 2.4 13.1 23.7 34.2 44.5
258.3 219.2 186.1 160.5 143.8 136.6 139.4 152.2 174.3 204.8 242.1
GEOM. LAT.
ALTITUDE
1925 1912 1903 1856 1850 1845 1840 1835 1829 1822 1814
L.T.(HRS.)



PERIGEE
ALT(KM.)= 135.62
LONG(E)= 356.35
LAT(DEG.)= -7.81
GMT(SEC.)= 68411.5 (1900H)
LOCAL TIME 1845 (H)
IN SUN FROM 67640. TO 69140.

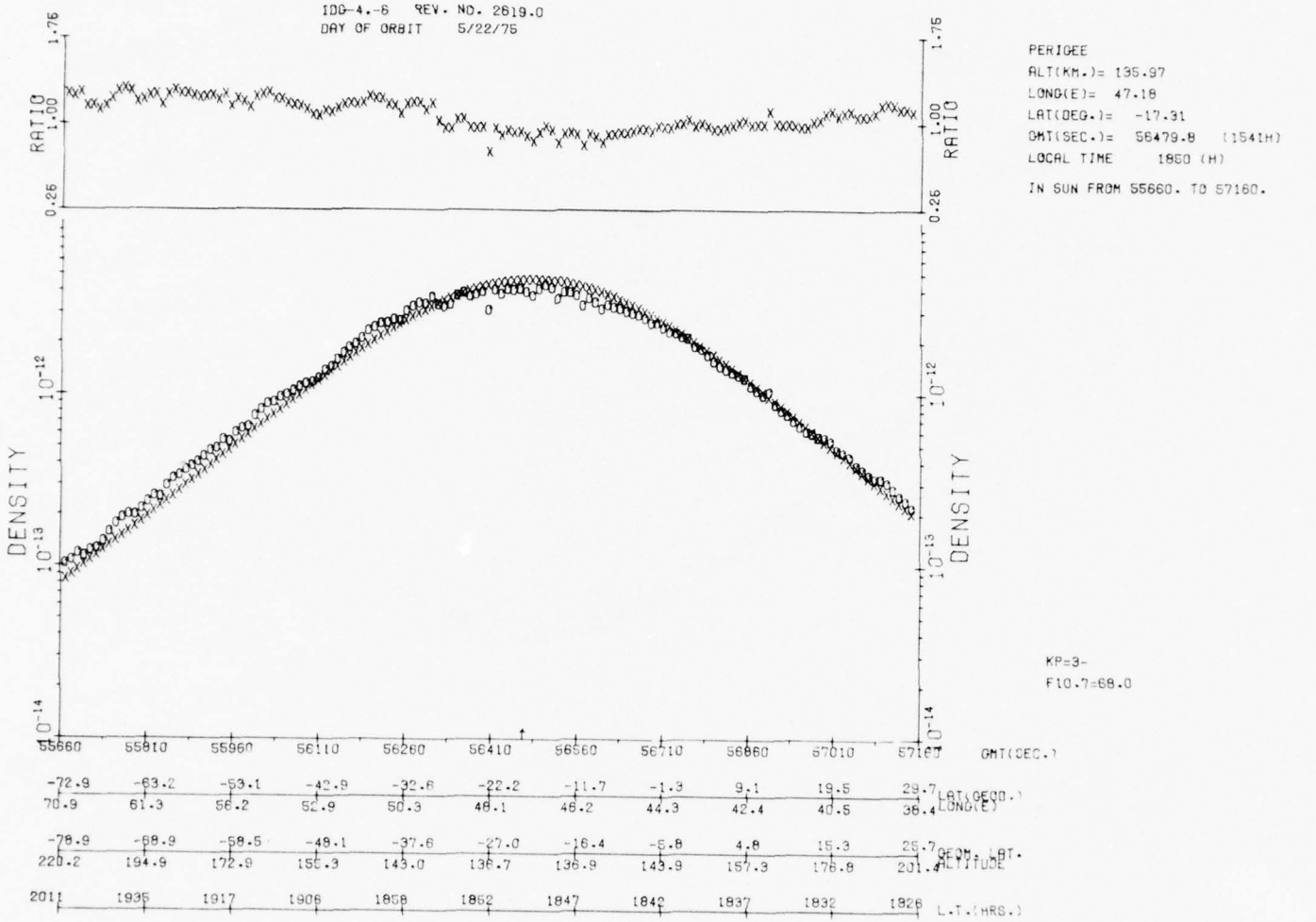
KP=2
F10.7=67.0


IDO-4.-6 REV. NO. 2575.0
DAY OF ORBIT 5/19/75
RATIO
1.75
1.00
0.26
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 135.73
LONG(E)= 333.28
LAT(DEG.)= -8.03
GMT(SEC.)= 73953.1 (2032H)
LOCAL TIME 1845 (H)
IN SUN FROM 73230. TO 74730.
KP=1
F10.7=67.0
73230 73380 73530 73680 73830 73980 74130 74280 74430 74580 74730 GMT(SEC.)
-57.8 -47.8 -37.5 -27.1 -16.8 -6.1 4.4 14.8 25.2 35.5 45.6 LAT(GEOD.)
348.1 342.2 339.3 336.9 334.9 332.9 331.1 329.2 327.2 324.8 322.2 LONG(E)
-50.3 -39.9 -29.4 -18.9 -8.2 2.4 13.1 23.7 34.3 44.7 55.0 GEOM. LAT.
231.4 198.1 170.8 150.7 138.8 135.3 142.1 157.3 180.7 211.3 247.8 ALTITUDE
1924 1911 1902 1855 1849 1844 1839 1834 1829 1822 1814 L.T.(HRS.)



PERIGEE
ALT(KM.)= 135.96
LONG(E)= 69.85
LAT(DEG.)= -17.09
GMT(SEC.)= 51033.0 (1410H)
LOCAL TIME 1849 (H)
IN SUN FROM 50210. TO 51710.

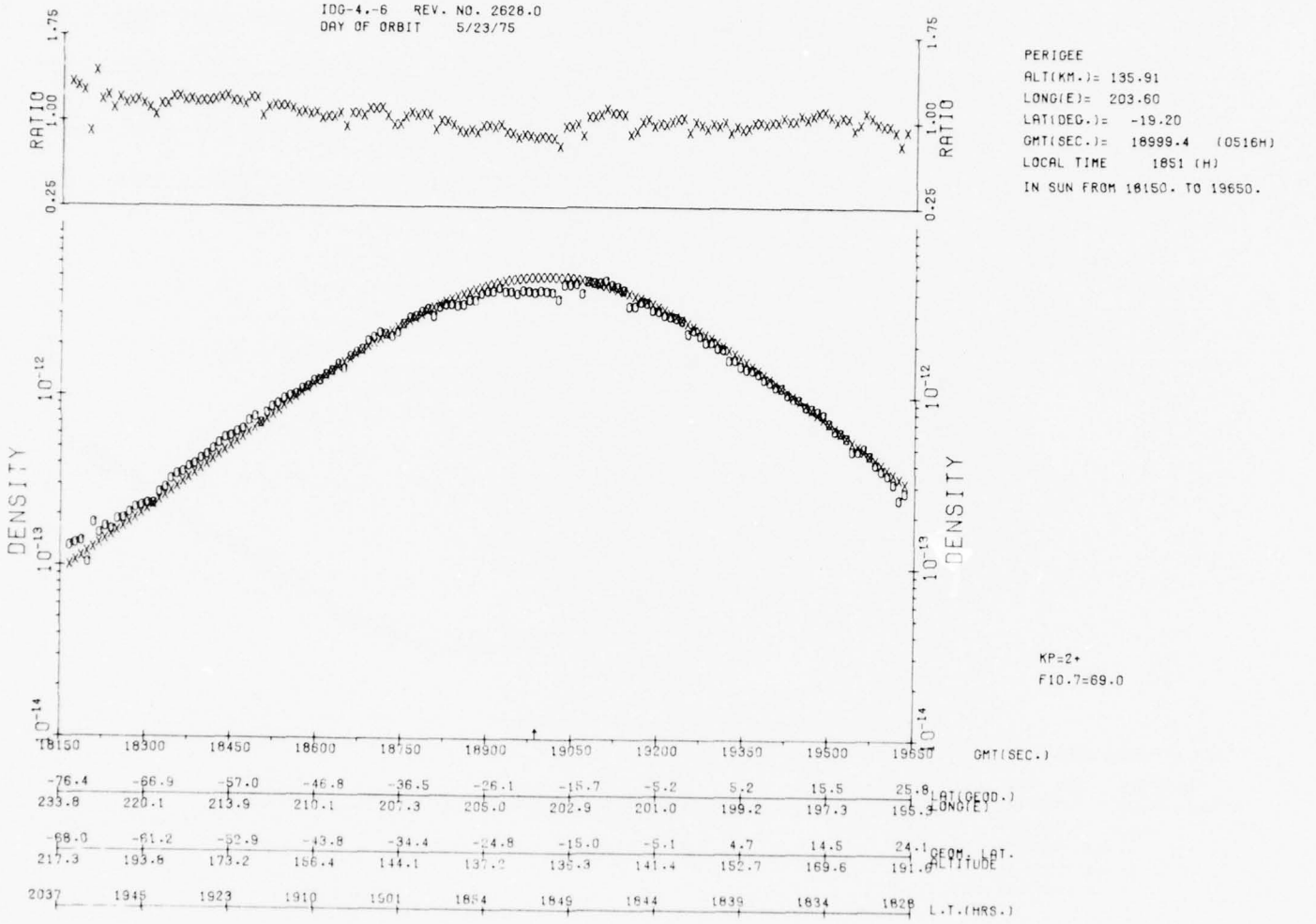
KP=3-
F10.7=68.0

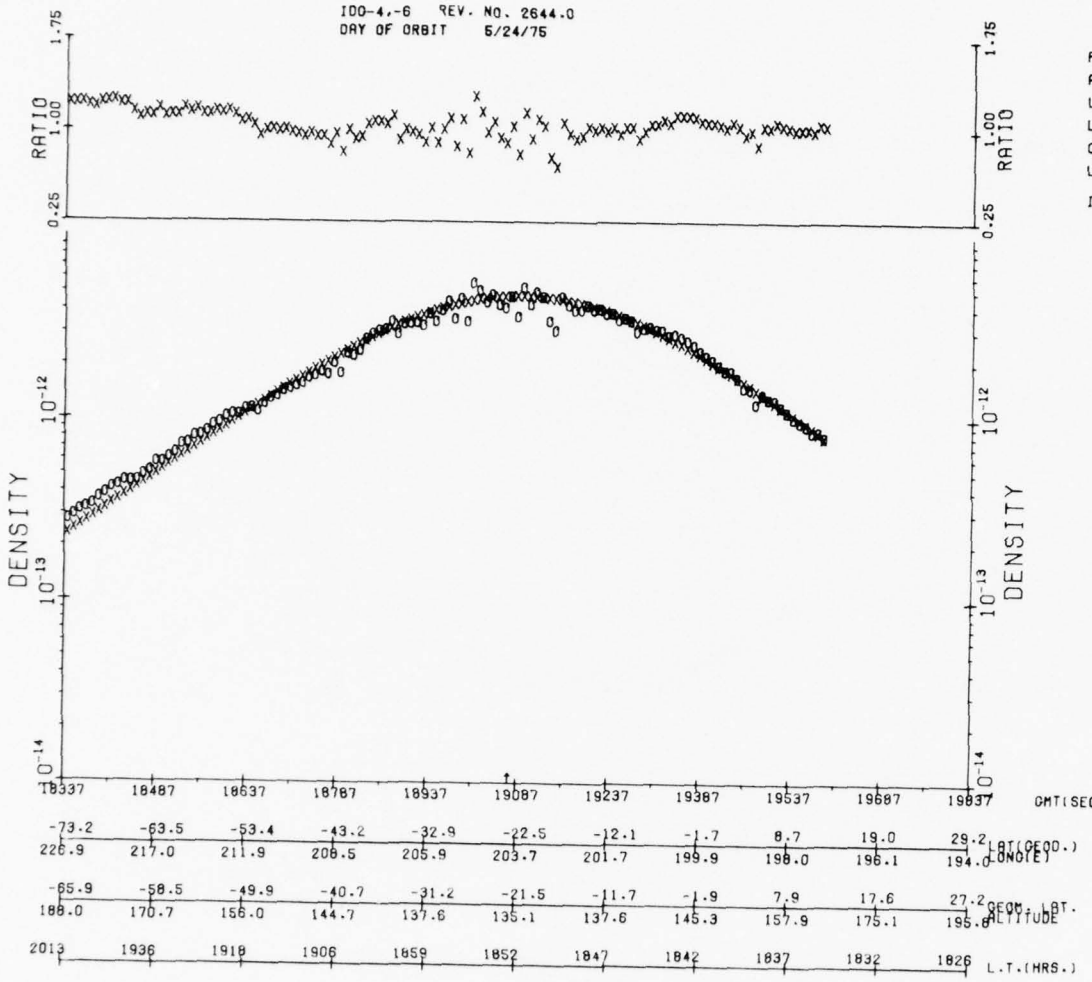


PERIGEE
ALT(KM.)= 135.97
LONG(E)= 47.18
LAT(DEG.)= -17.31
GMT(SEC.)= 58479.8 (1541H)
LOCAL TIME 1850 (H)

IN SUN FROM 55660. TO 57160.

KP=3-
F10.7=68.0

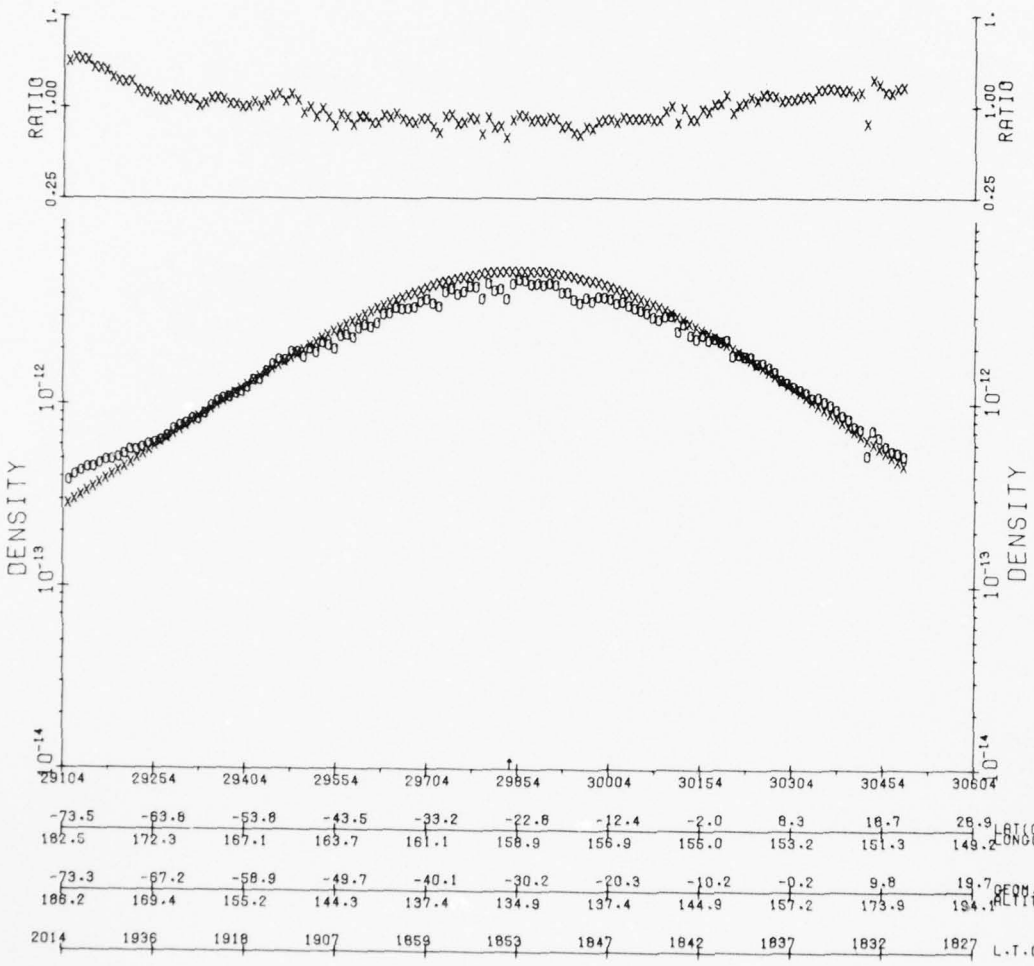

IDG-4.-6 REV. NO. 2628.0
DAY OF ORBIT 5/23/75
RATIO
1.75
1.00
0.25
DENSITY
10^{-12}
10^{-13}
10^{-14}
PERIGEE
ALT(KM.)= 135.91
LONG(E)= 203.60
LAT(DEG.)= -19.20
GMT(SEC.)= 18999.4 (0516H)
LOCAL TIME 1851 (H)
IN SUN FROM 18150. TO 19650.
KP=2+
F10.7=69.0
18150 18300 18450 18600 18750 18900 19050 19200 19350 19500 19650 GMT(SEC.)
-76.4 -66.9 -57.0 -46.8 -36.5 -26.1 -15.7 -5.2 5.2 15.5 25.8 LAT(GEOD.)
233.8 220.1 213.9 210.1 207.3 205.0 202.9 201.0 199.2 197.3 195.3 LONG(E)
-68.0 -61.2 -52.9 -43.8 -34.4 -24.8 -15.0 -5.1 4.7 14.5 24.1 GEOM. LAT.
217.3 193.6 173.2 156.4 144.1 137.2 135.3 141.4 152.7 169.6 191.6 ALTITUDE
2037 1945 1923 1910 1901 1854 1849 1844 1839 1834 1828 L.T.(HRS.)



PERIGEE
ALT(KM.)= 135.08
LONG(E)= 203.69
LAT(DEG.)= -22.50
GMT(SEC.)= 19087.2 (0518H)
LOCAL TIME 1852 (H)

IN SUN FROM 18337. TO 19837.

KP=1-
F10.7=69.0

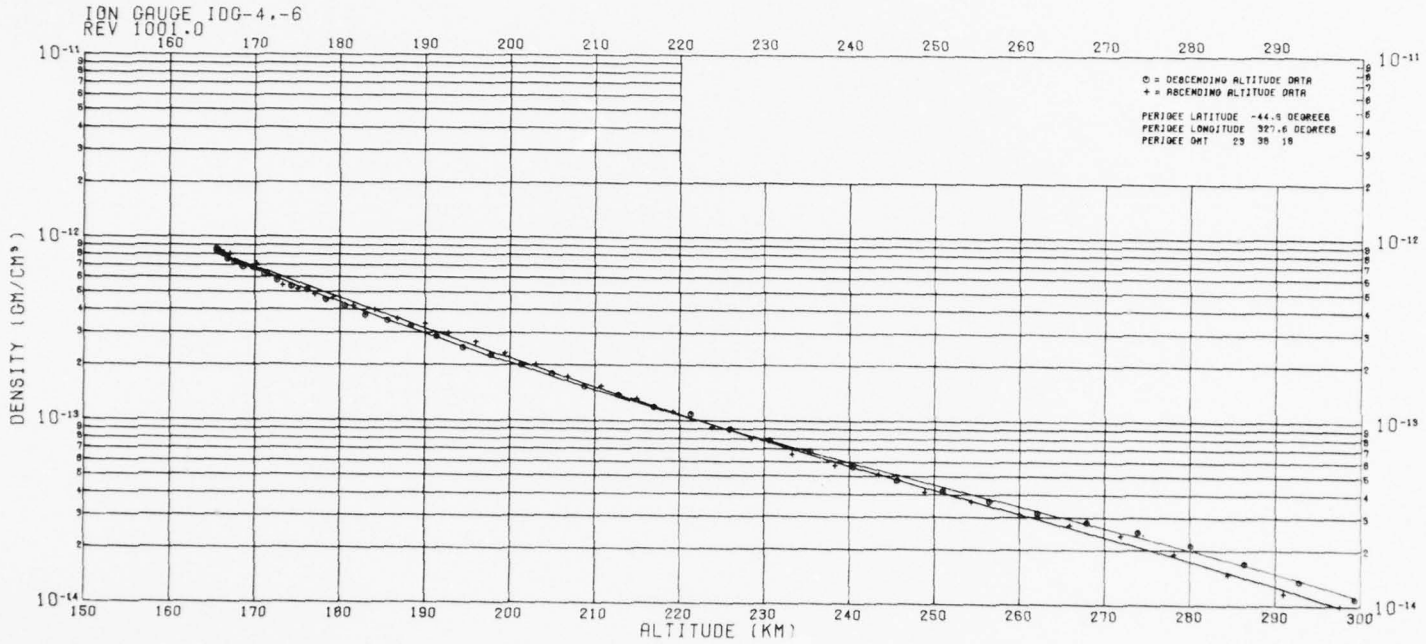


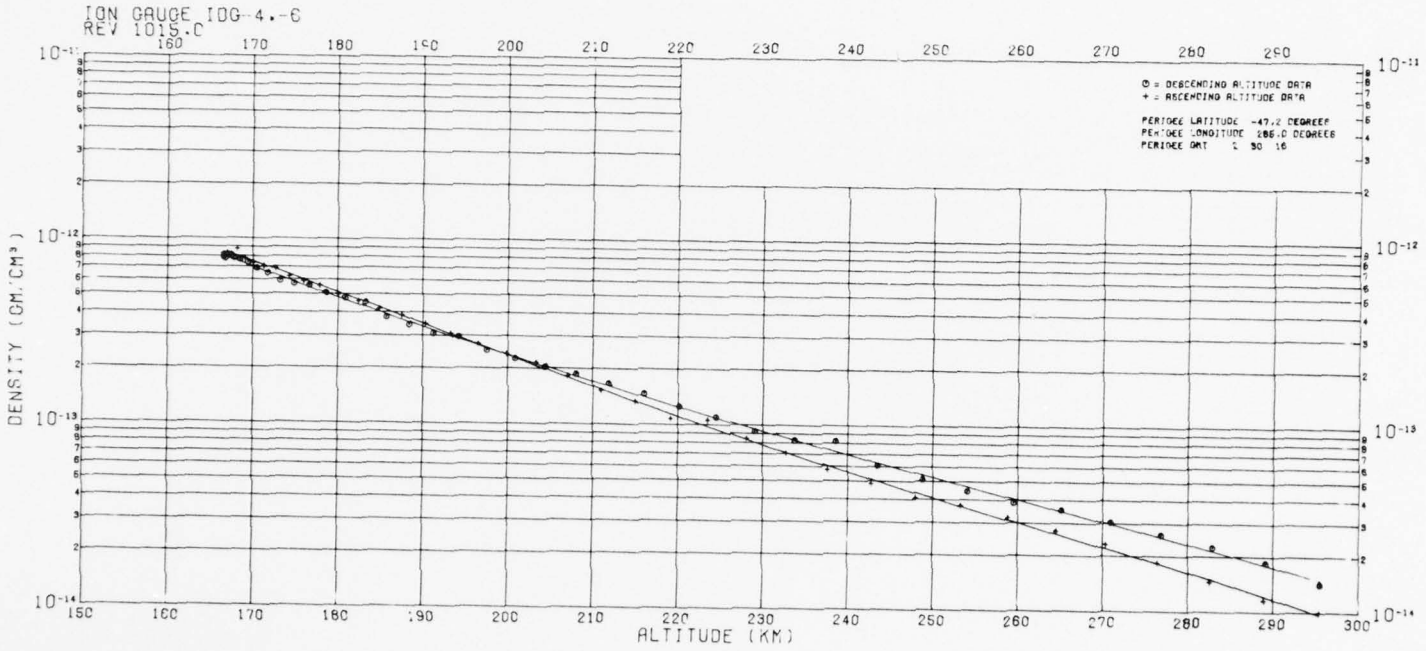
PERIGEE
ALT(KM.)= 134.94
LONG(E)= 156.88
LAT(DEG.)= -22.82
GMT(SEC.)= 29854.2 (0817H)
LOCAL TIME 1853 (H)
IN SUN FROM 29104. TO 30604.

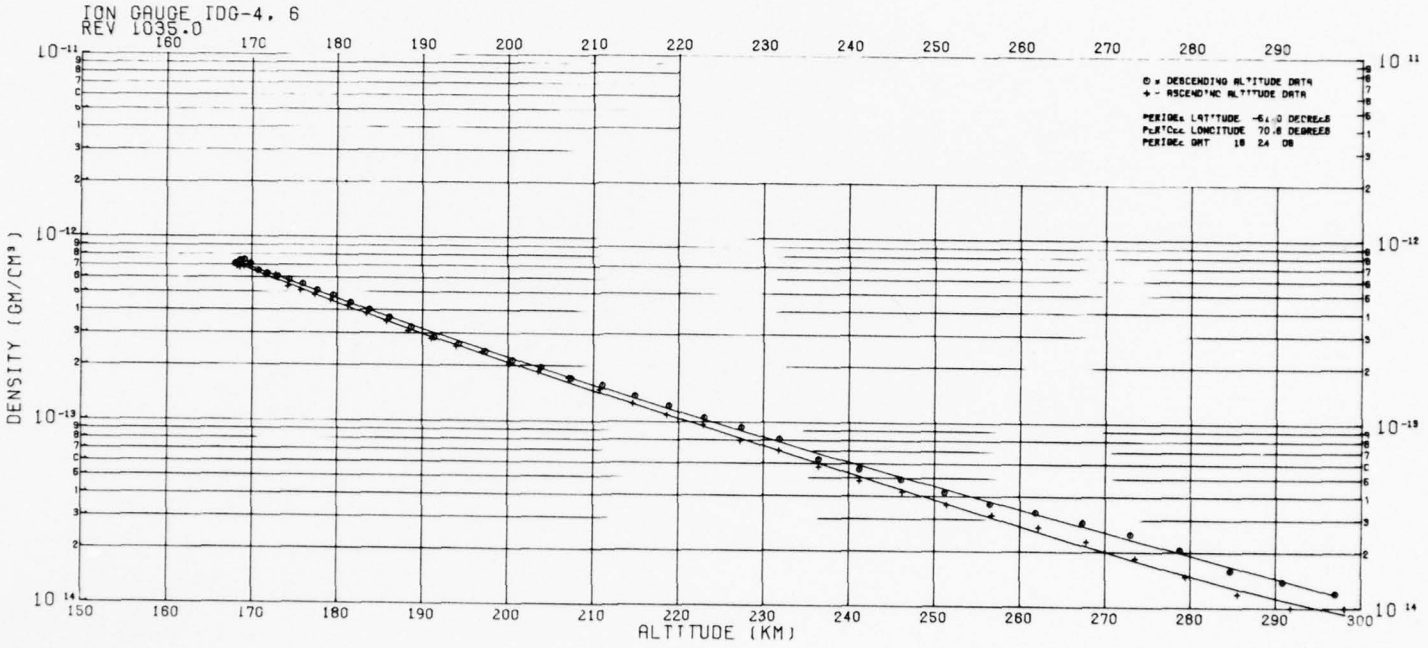
KP=1-
F10.7=69.0

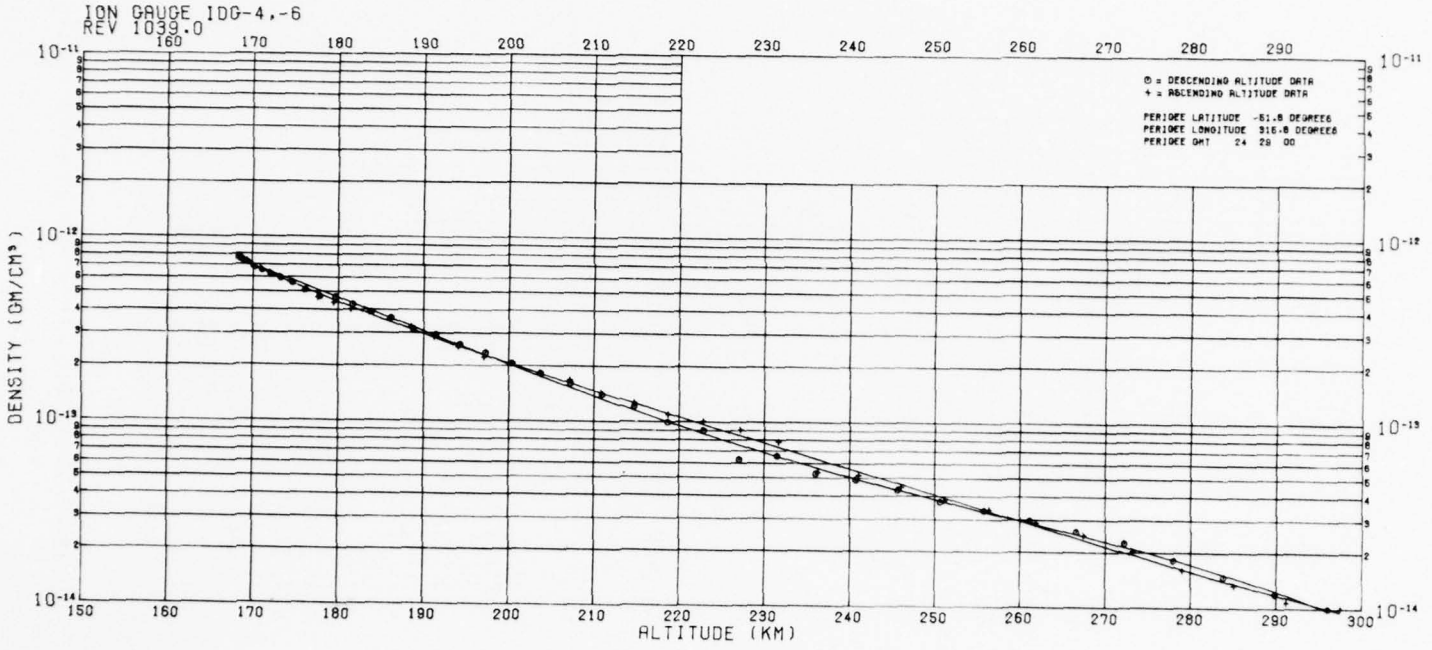
Appendix B

Plots of Density vs Altitude


ION GAUGE IDG-4,-6
REV 1001.0
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -44.6 DEGREES
PERIGEE LONGITUDE 327.6 DEGREES
PERIGEE GMT 23 38 18
DENSITY (GM/CM³)
ALTITUDE (KM)


IGN GAUGE IDG-4.-6
REV 1015.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -47.2 DEGREES
PERIGEE LONGITUDE 186.0 DEGREES
PERIGEE DAT 2 30 16
DENSITY (GM/CM³)
ALTITUDE (KM)


ION GAUGE IDG-4, 6
REV 1035.0
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -61.0 DEGREES
PERIGEE LONGITUDE 70.0 DEGREES
PERIGEE GMT 18 24 08


ION GAUGE IDG-4,-6
REV 1039.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
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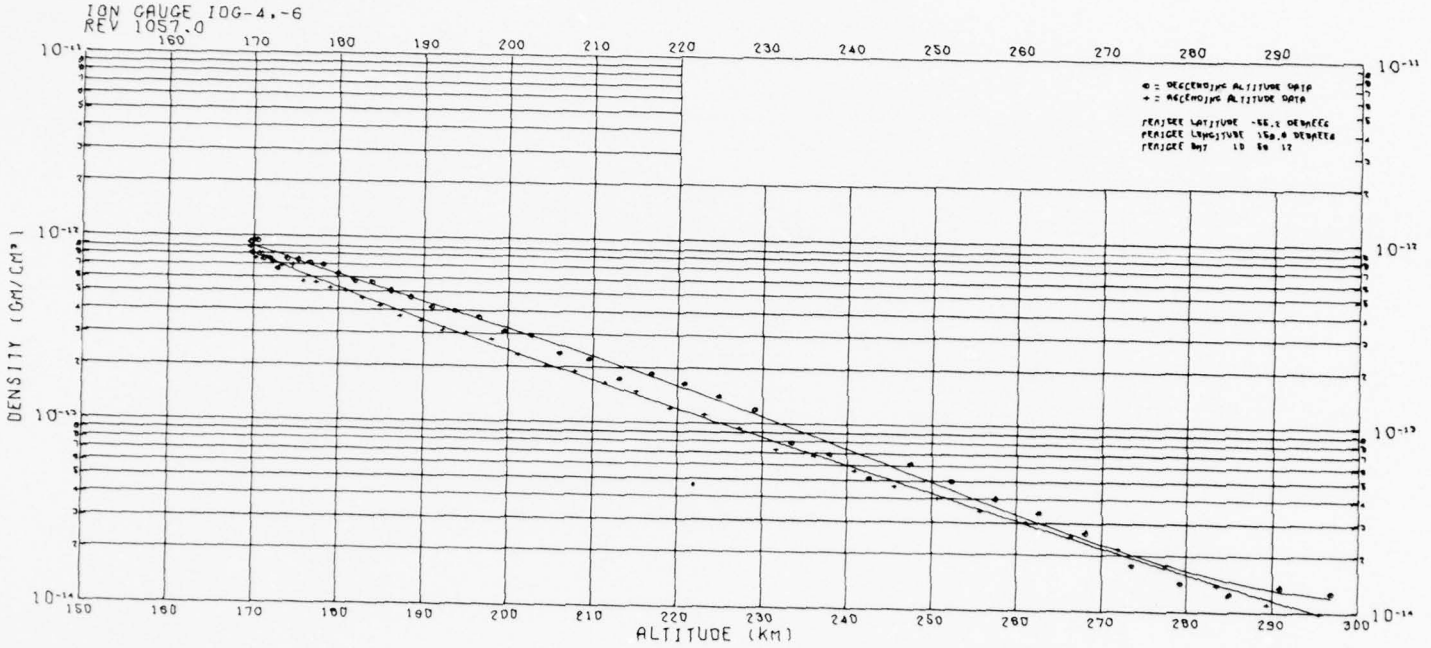
PERIGEE LATITUDE -51.8 DEGREES
PERIGEE LONGITUDE 316.8 DEGREES
PERIGEE GMT 24 29 00


ION GAUGE IOG-4,-6
REV 1057.0
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
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220
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260
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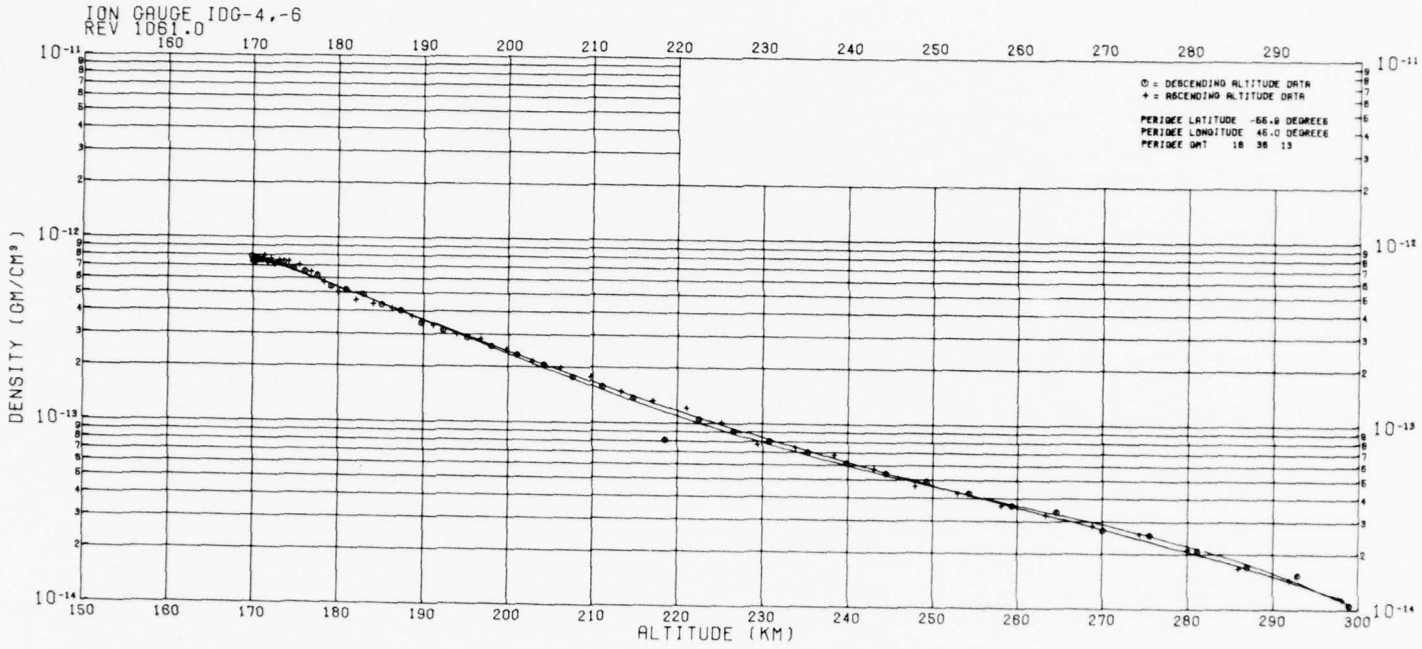
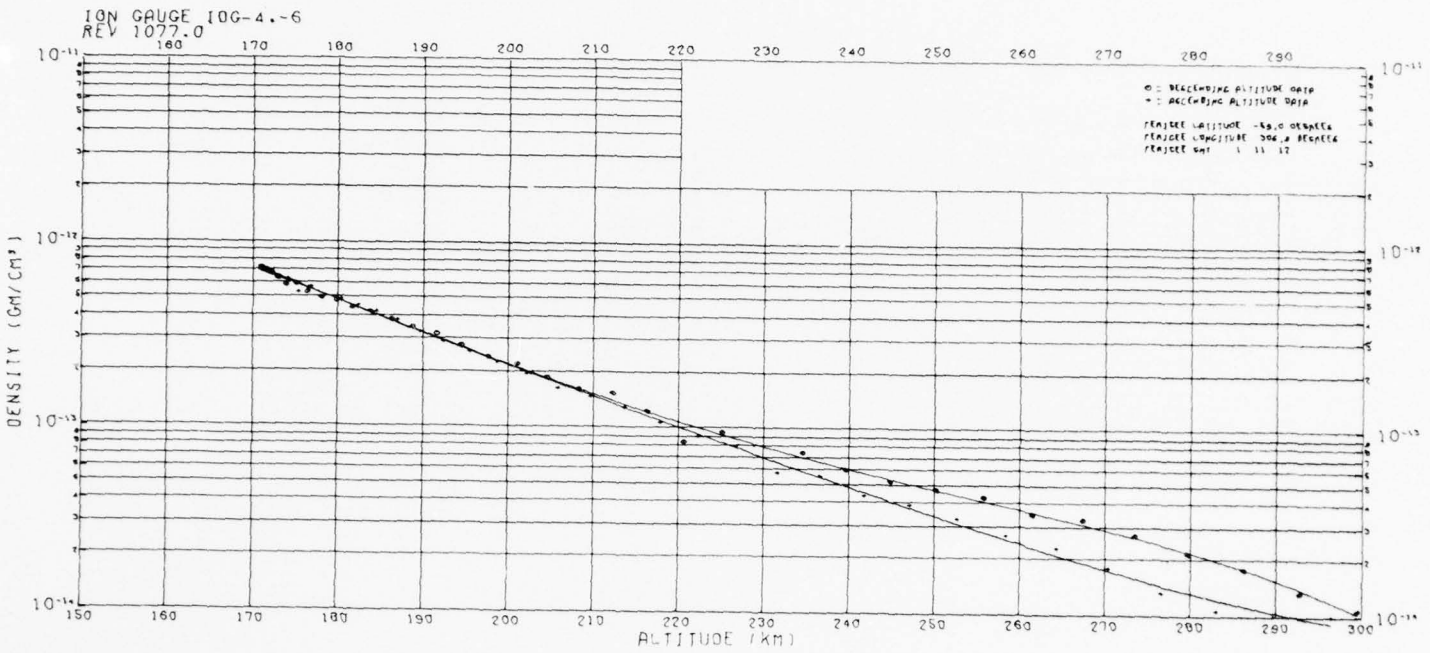
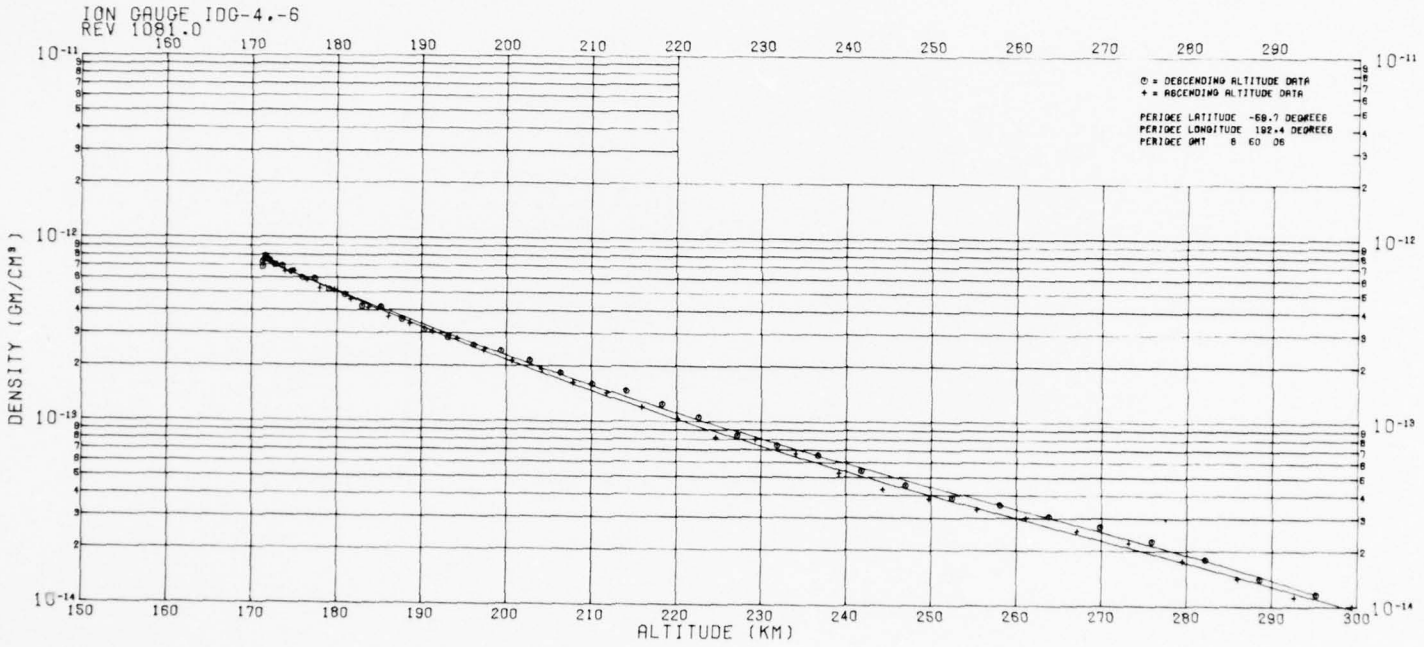
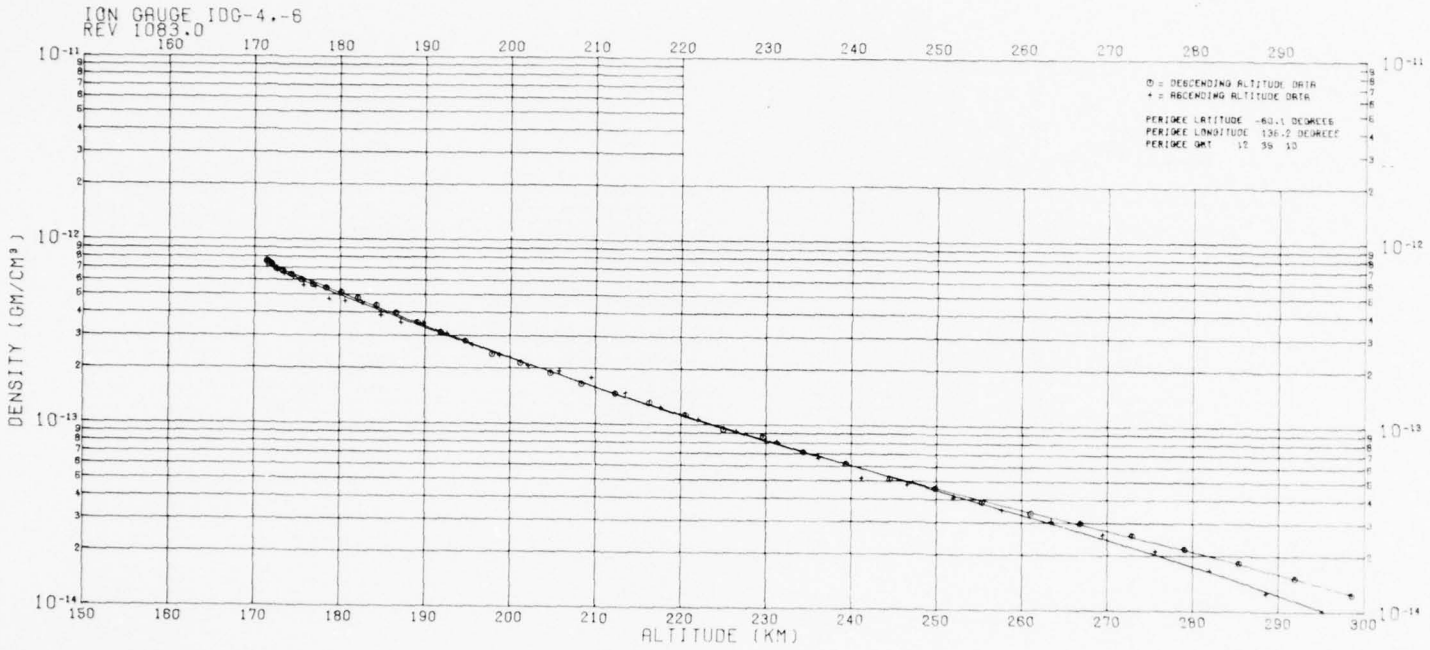
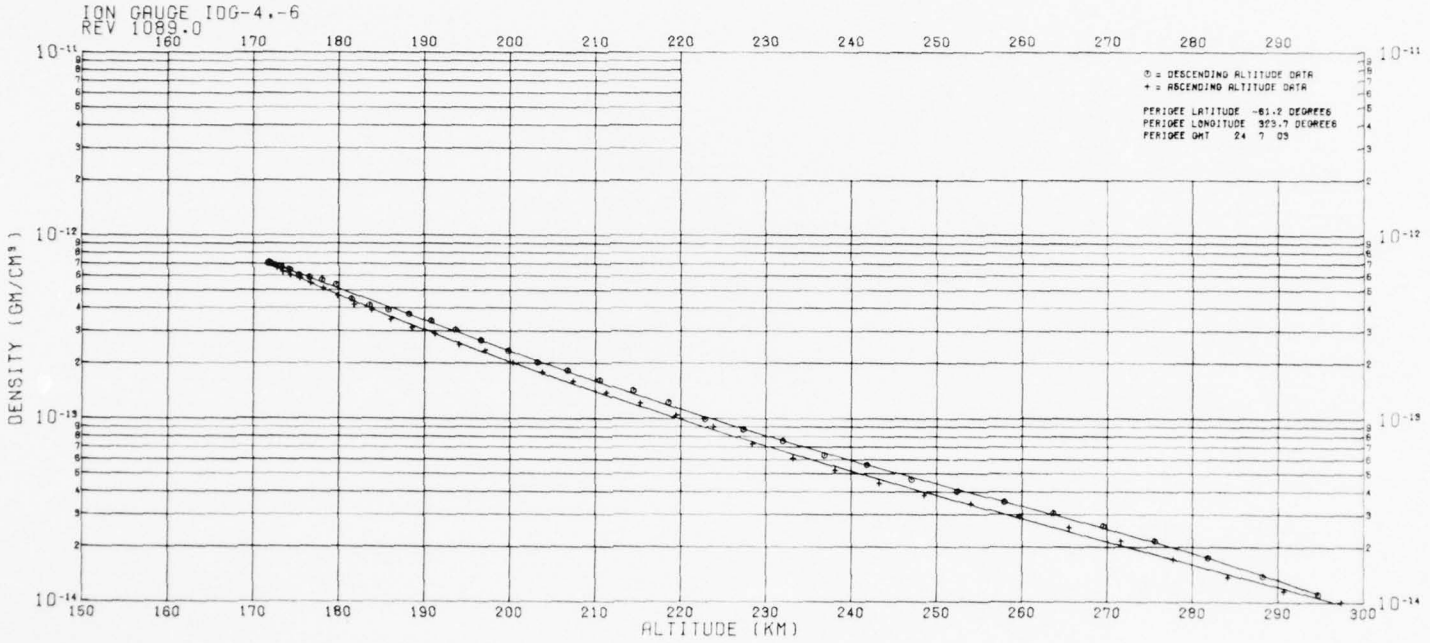
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴

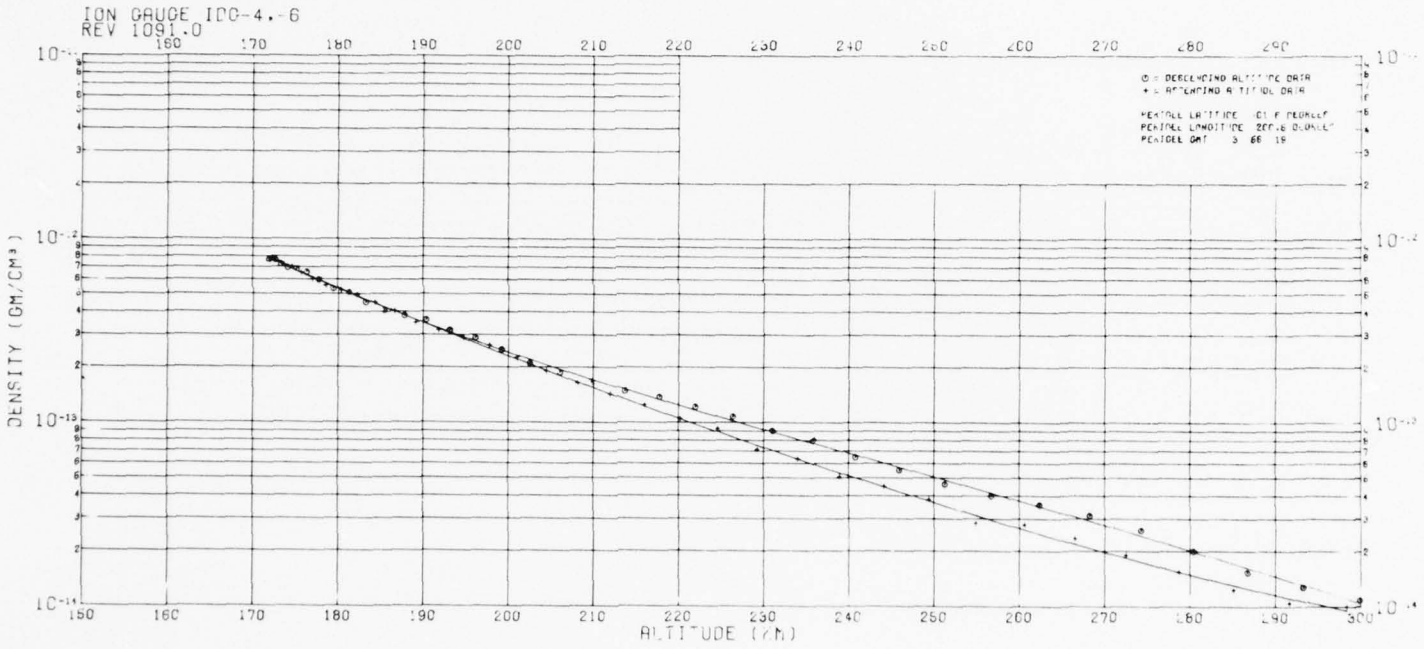

ION GAUGE IDG-4,-6
REV 1061.0
DENSITY (GM/CM³)
ALTITUDE (KM)
○ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -66.0 DEGREES
PERIGEE LONGITUDE 46.0 DEGREES
PERIGEE GMT 18 36 13

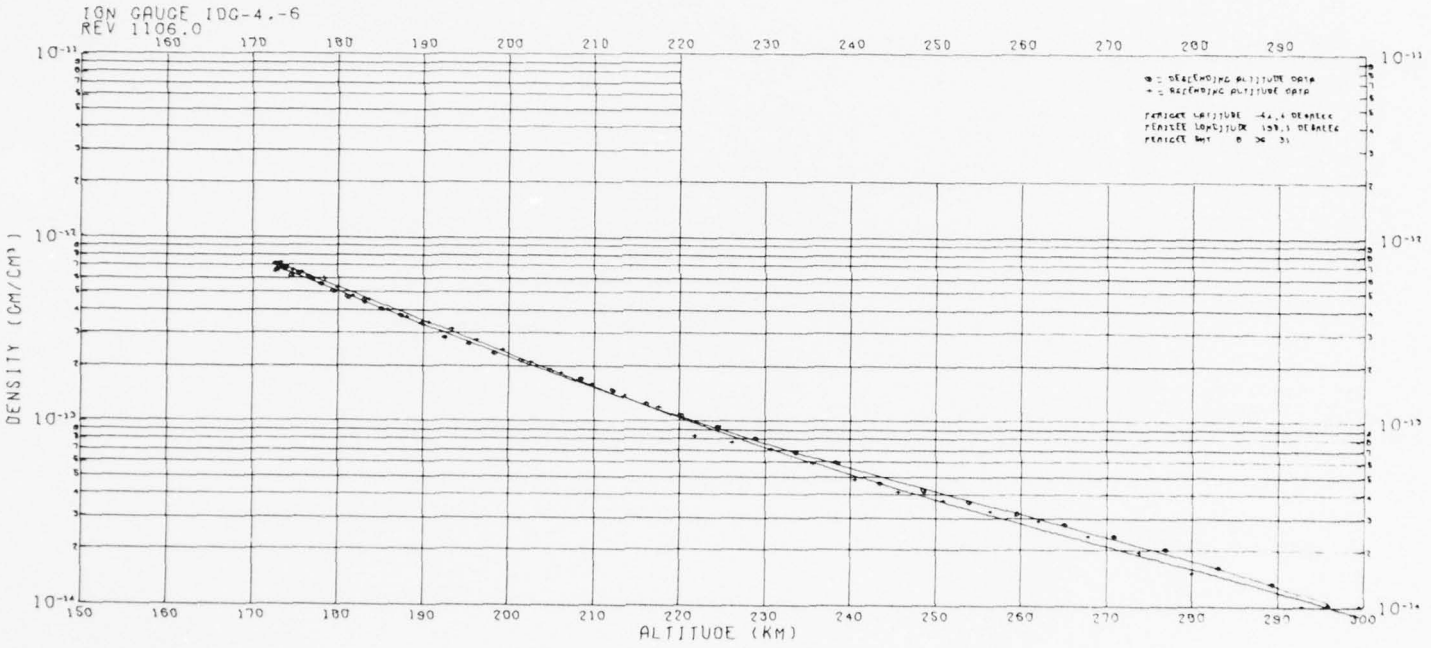

ION GAUGE IOG-4.-6
REV 1077.0
DENSITY (GM/CM³)
ALTITUDE (KM)

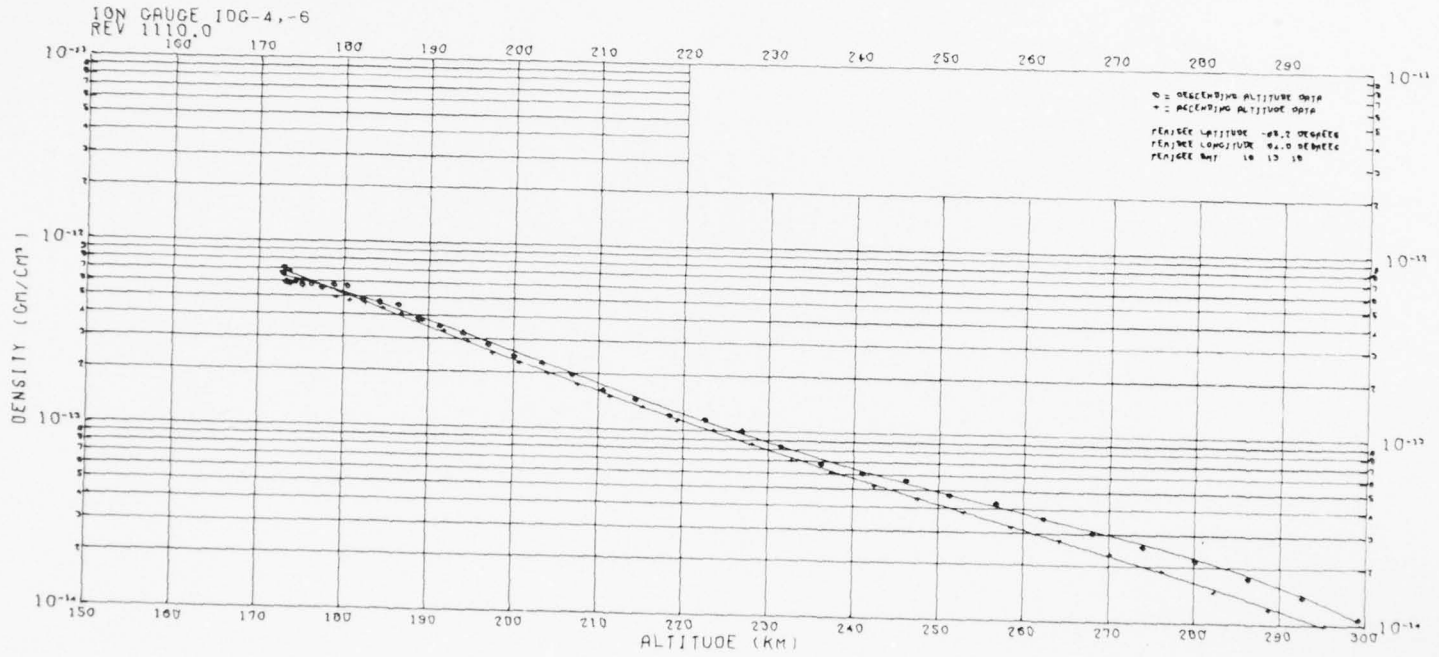

ION GAUGE IDG-4,-6
REV 1081.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -68.7 DEGREES
PERIGEE LONGITUDE 192.4 DEGREES
PERIGEE GMT 8 60 06
DENSITY (GM/CM³)
ALTITUDE (KM)


ION GAUGE IDG-4,-6
REV 1083.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -60.1 DEGREES
PERIGEE LONGITUDE 136.2 DEGREES
PERIGEE GMT 12 55 13
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300


ION GAUGE IDG-4,-6
REV 1089.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -61.2 DEGREES
PERIGEE LONGITUDE 323.7 DEGREES
PERIGEE GMT 24 7 05
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300


ION GAUGE IDC-4.-6
REV 1091.0
DENSITY (GM/CM**3)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

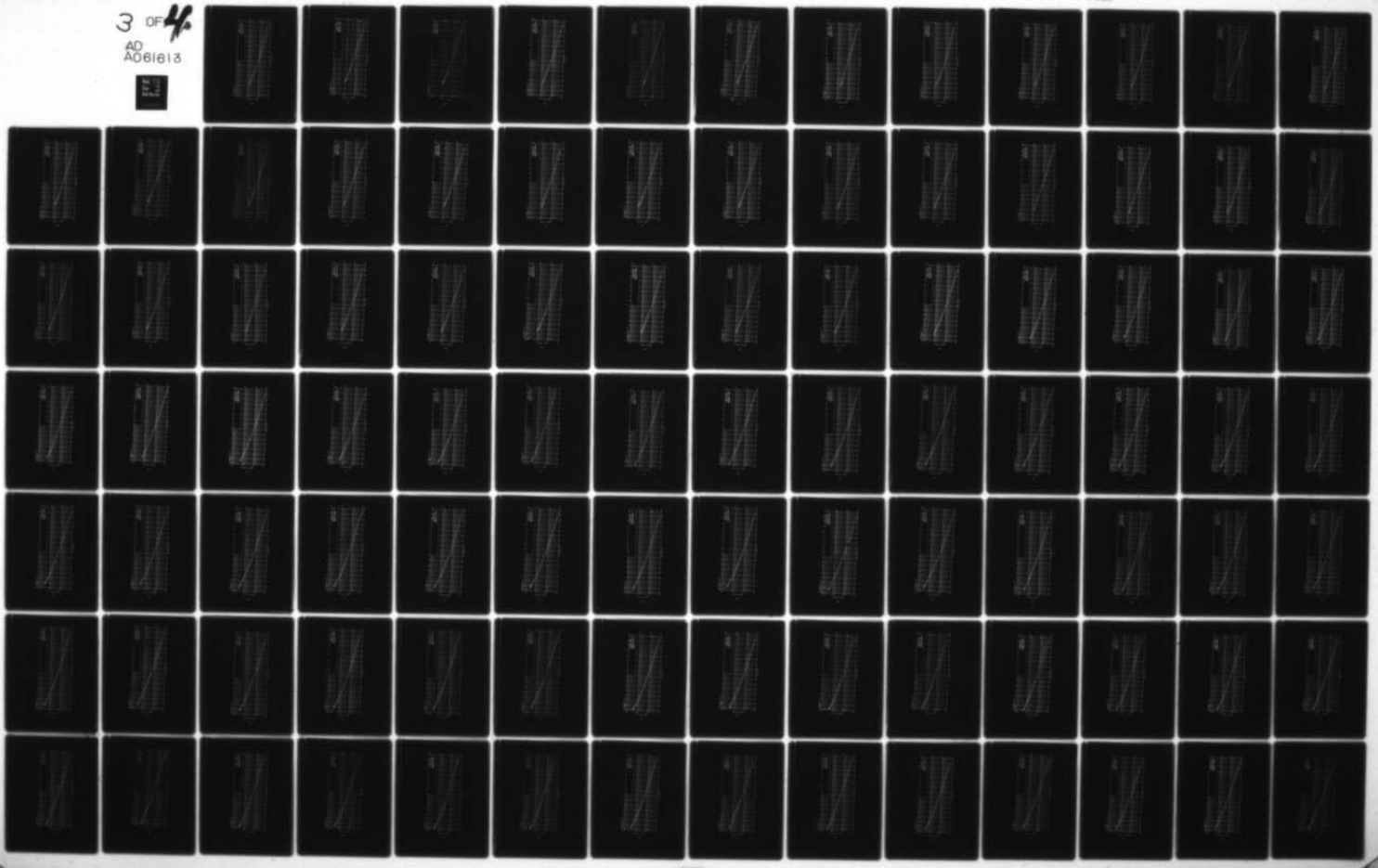

ION GAUGE IDG-4,-6
REV 1106.0
DENSITY (GM/CM³)
ALTITUDE (KM)

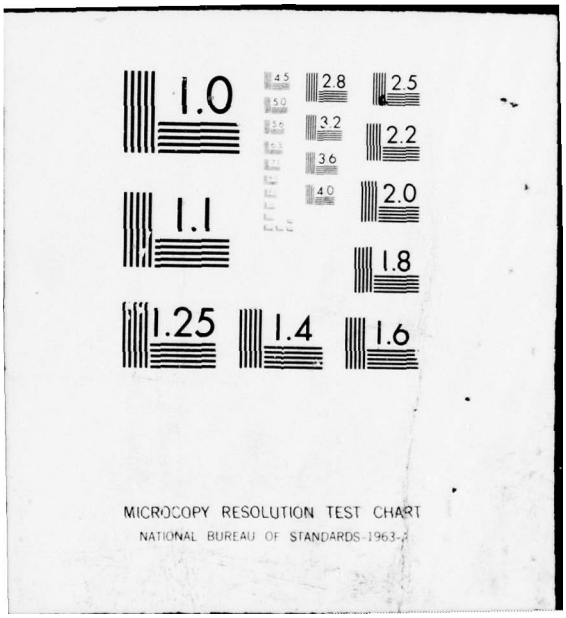

ION GAUGE IDG-4,-6
REV 1110.0
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

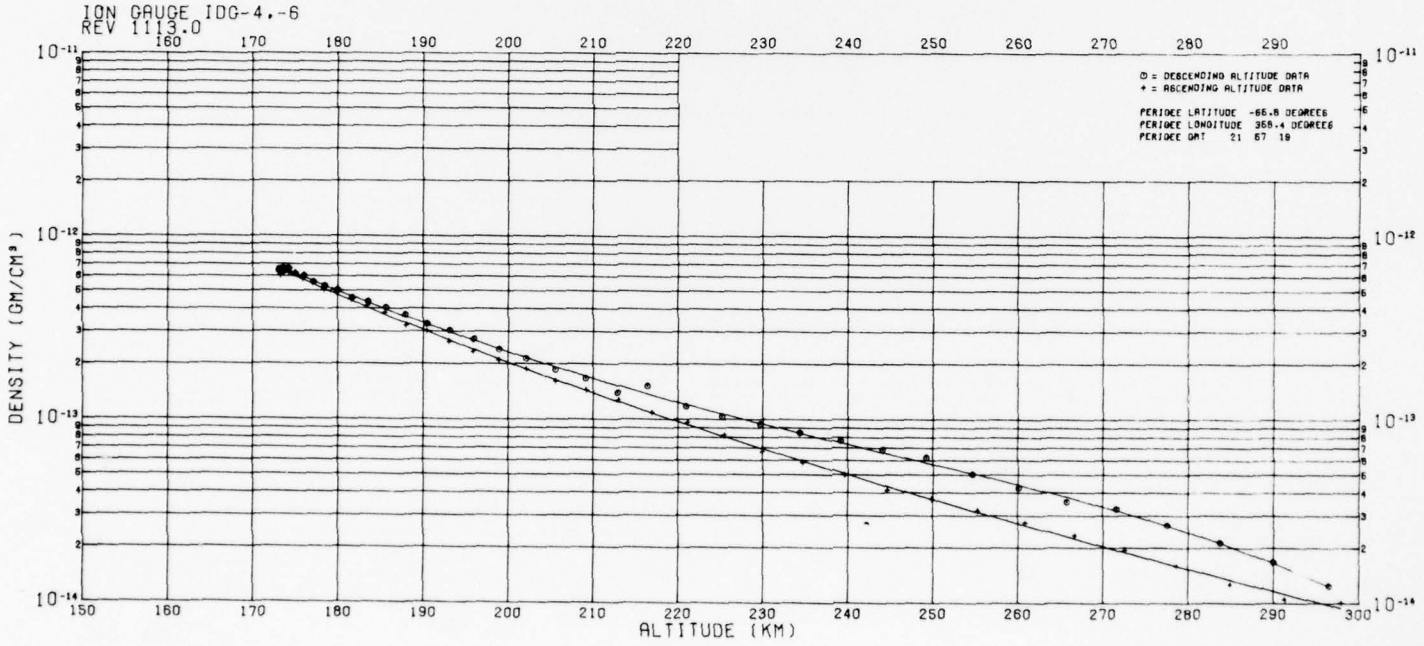
AD-A061 613 AIR FORCE GEOPHYSICS LAB HANSCOM AFB MASS F/G 4/1
SATELLITE IONIZATION GAUGE MEASUREMENTS OF ATMOSPHERIC DENSITY.(U)
AUG 78 J P MCISAAC, R E MCINERNEY, D DELOREY

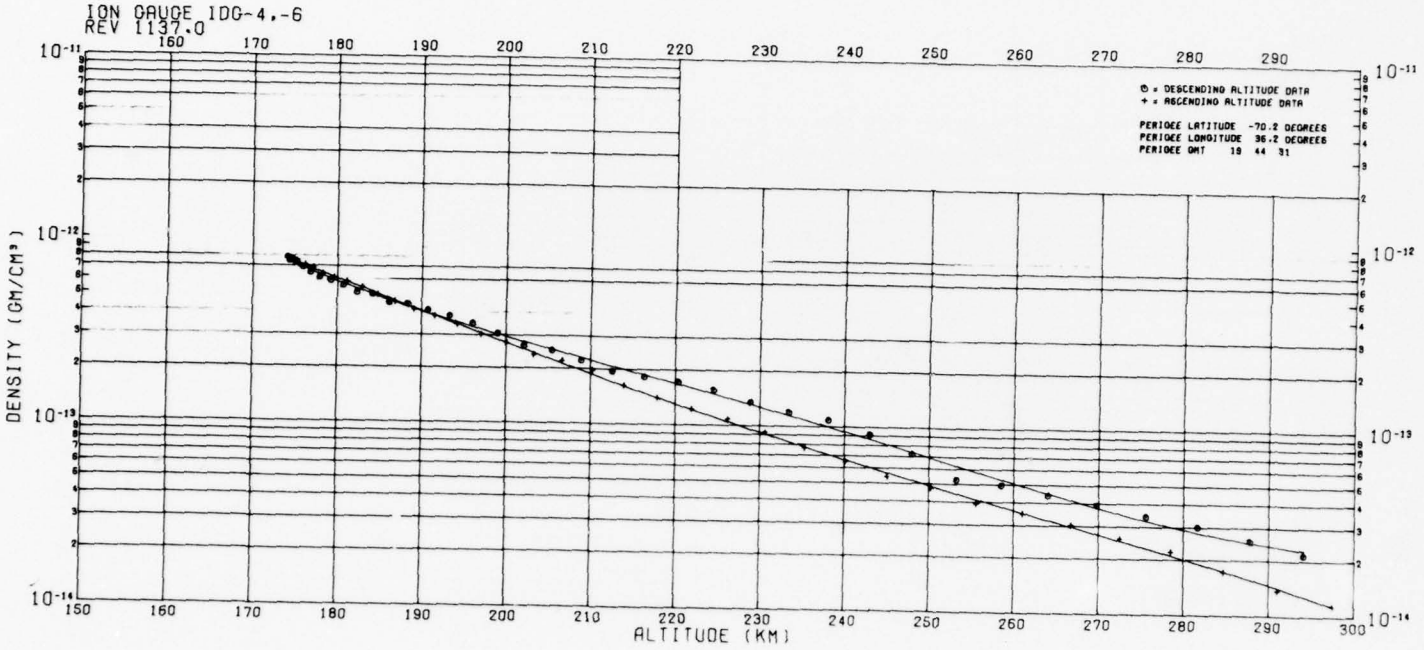
UNCLASSIFIED AFGL-TR-78-0201 NL

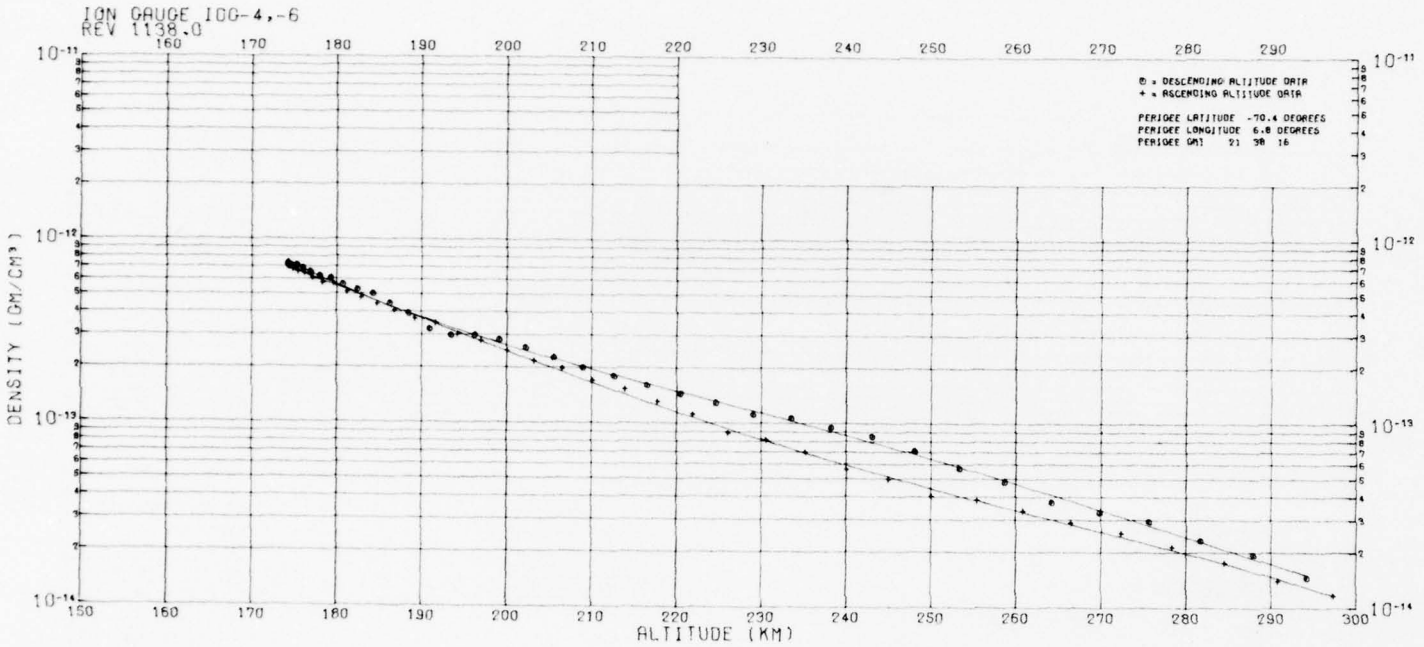
3 OF 4
AD A061613

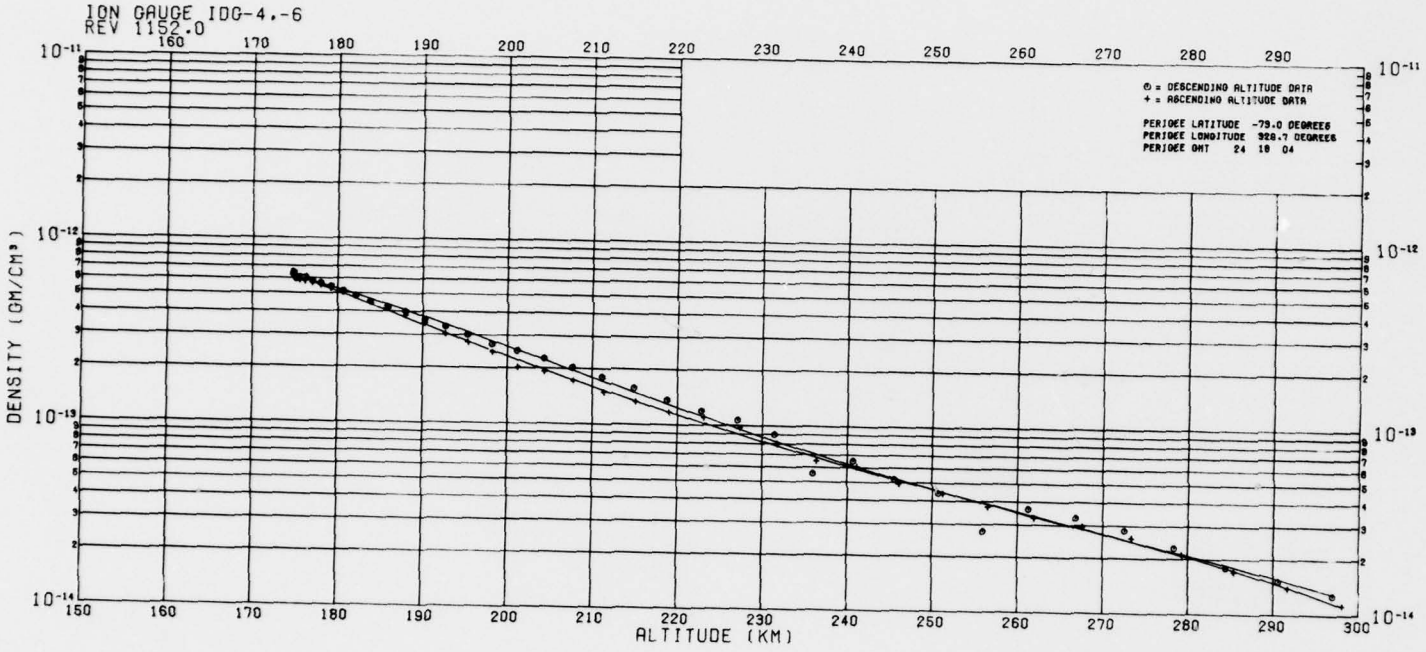


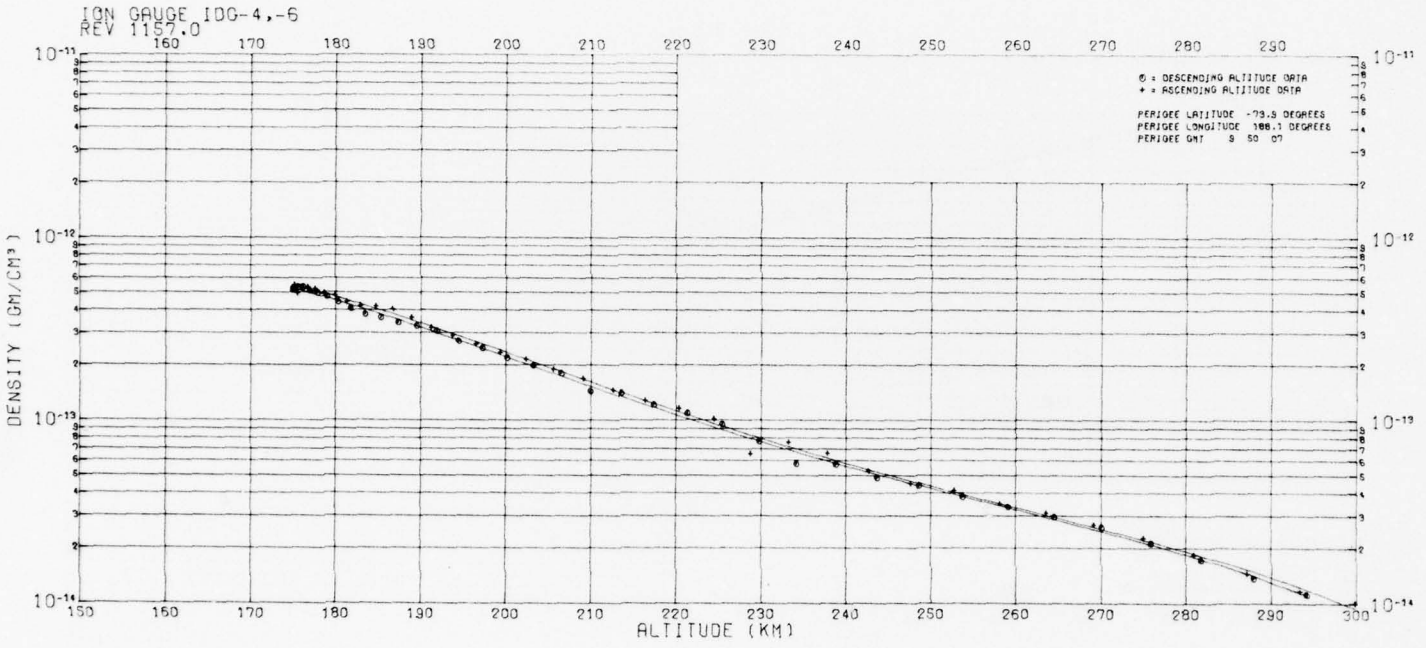

1.0
1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.5
2.8
3.2
3.6
4.0
4.5
5.0
5.6
6.3
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

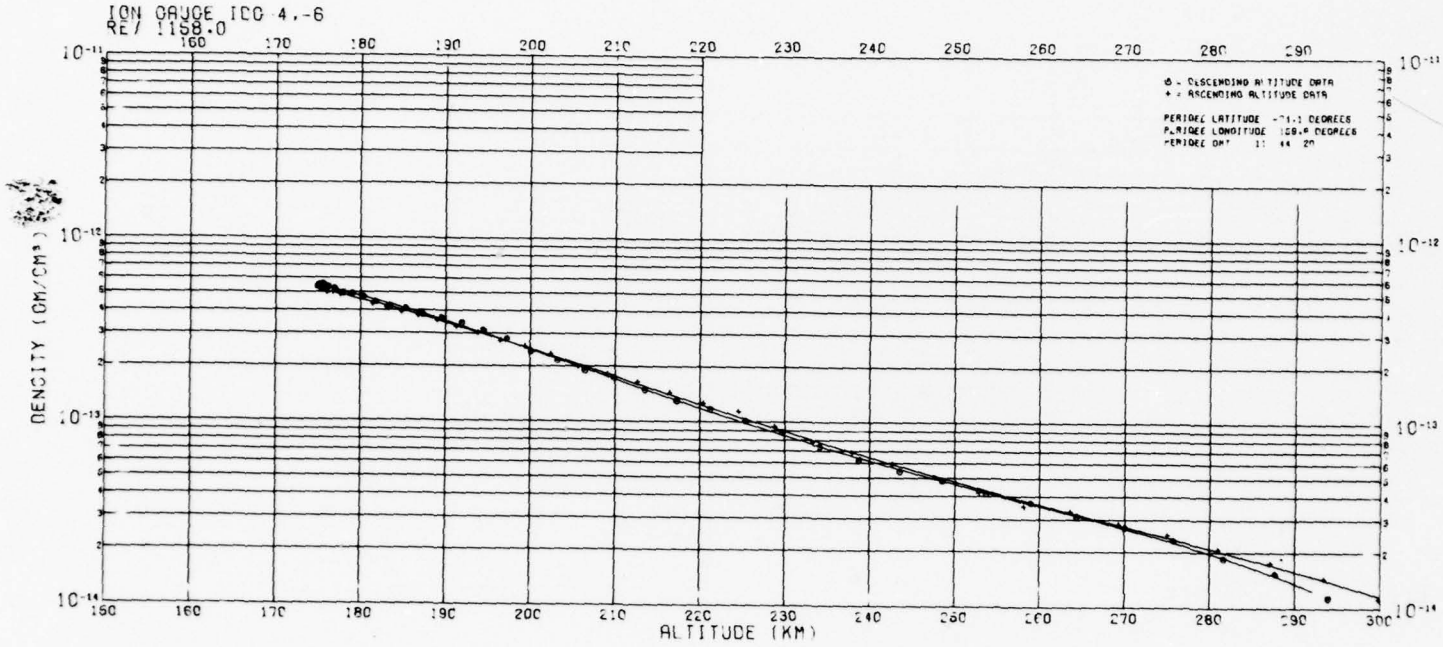

ION GAUGE IDG-4,-6
REV 1113.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -66.8 DEGREES
PERIGEE LONGITUDE 358.4 DEGREES
PERIGEE GMT 21 67 19
DENSITY (GM/CM³)
ALTITUDE (KM)

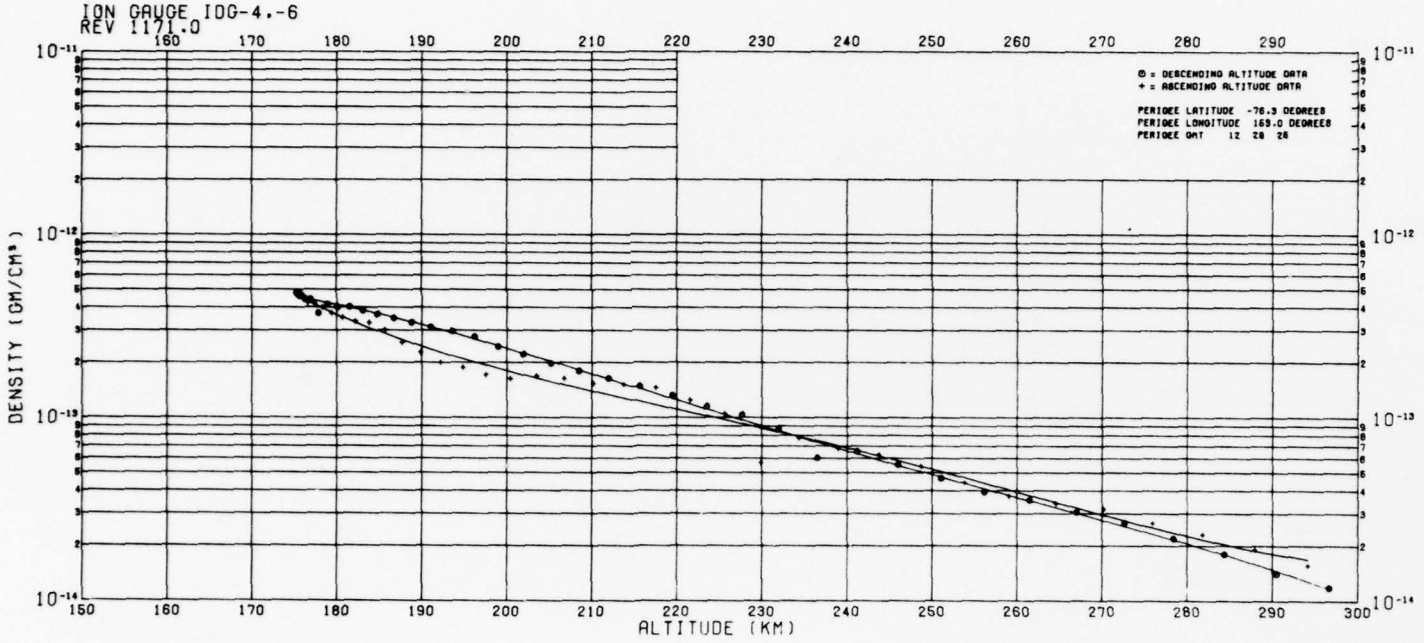

ION GAUGE IDG-4,-6
REV 1137.0
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -70.2 DEGREES
PERIGEE LONGITUDE 36.2 DEGREES
PERIGEE GMT 18 44 31
DENSITY (GM/CM³)
ALTITUDE (KM)

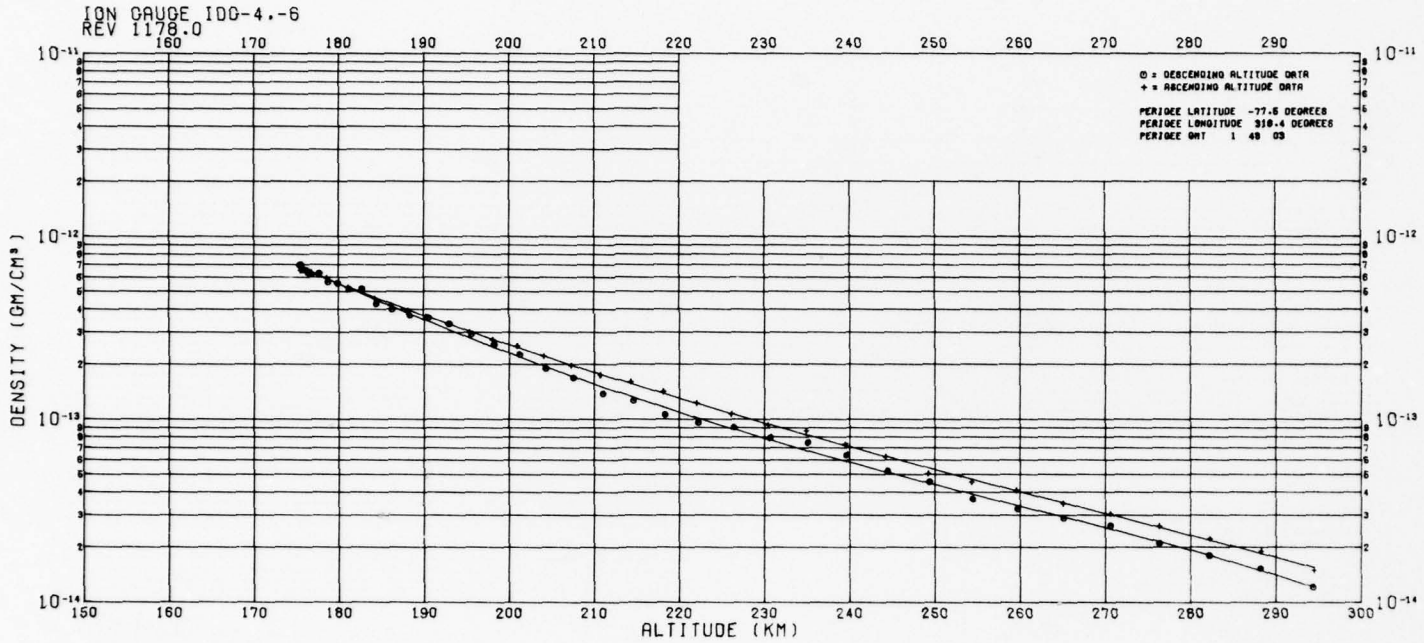

ION GAUGE IOG-4,-6
REV 1138.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -70.4 DEGREES
PERIGEE LONGITUDE 6.8 DEGREES
PERIGEE GMT 21 38 16

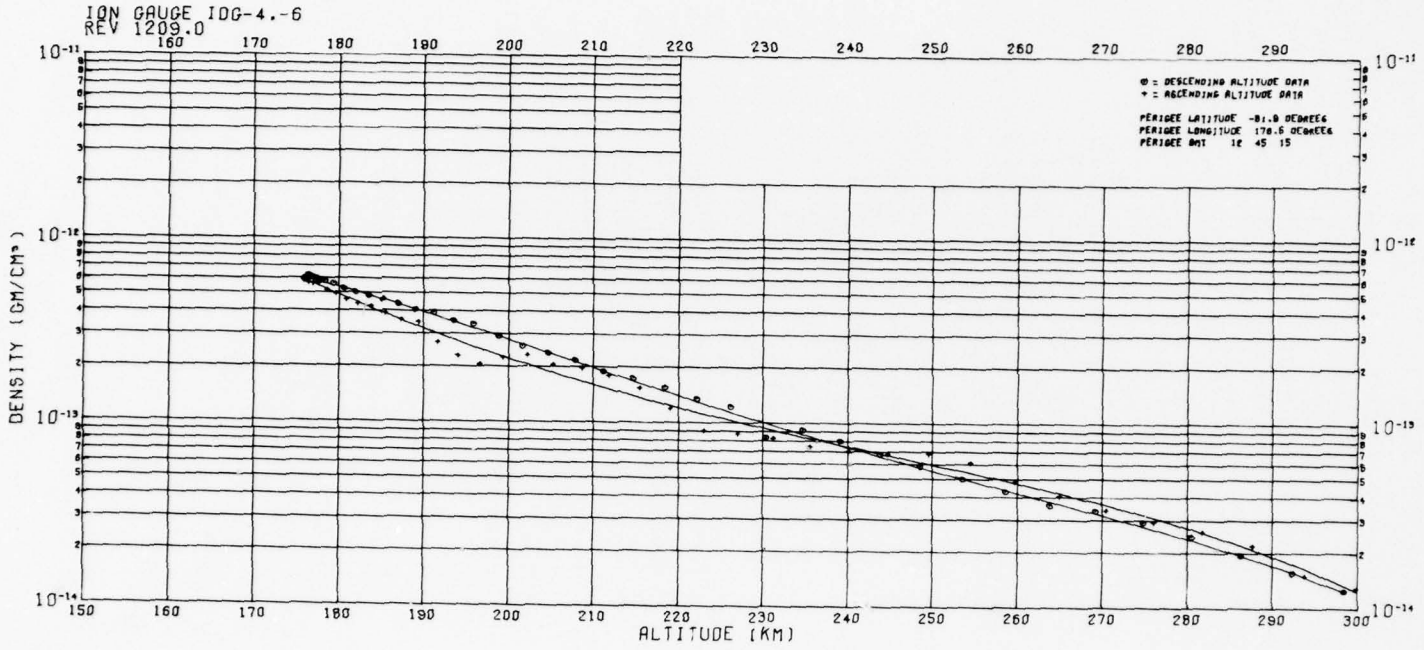

ION GAUGE IDG-4,-6
REV 1152.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -79.0 DEGREES
PERIGEE LONGITUDE 328.7 DEGREES
PERIGEE GMT 24 18 04
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

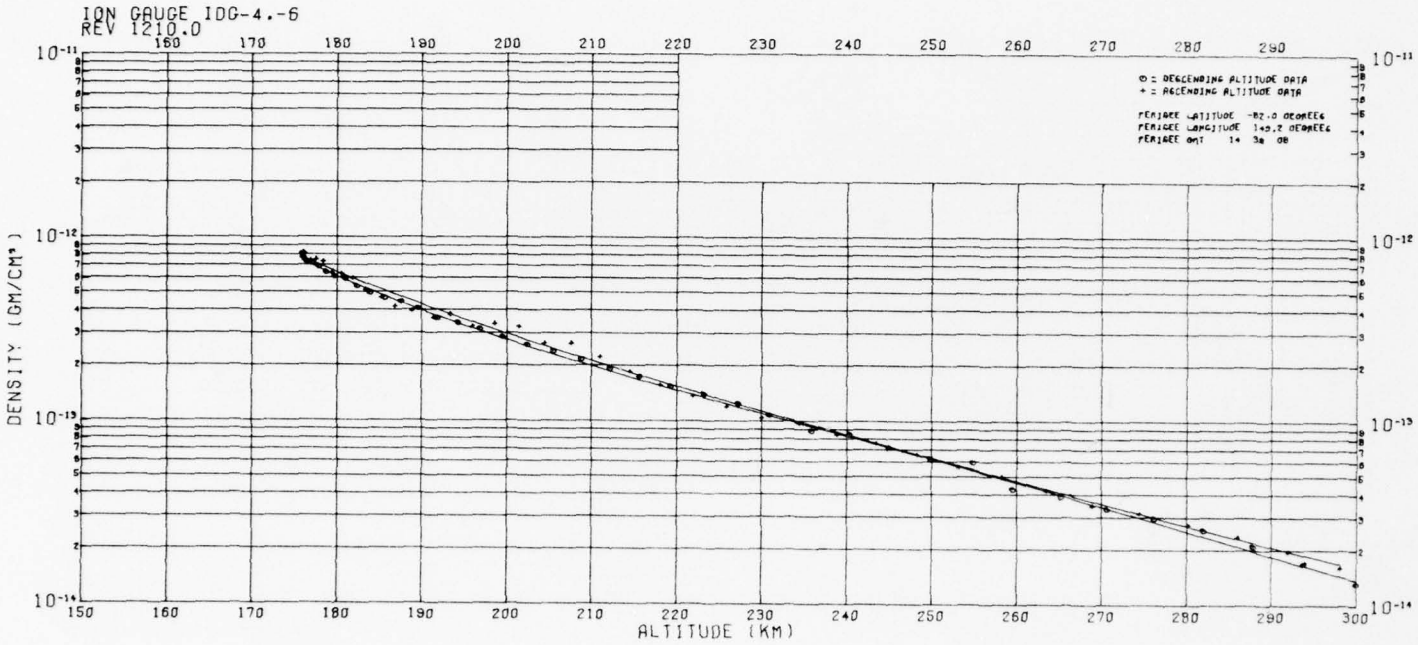

ION GAUGE IDG-4,-6
REV 1157.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -73.9 DEGREES
PERIGEE LONGITUDE 188.1 DEGREES
PERIGEE GMT 9 50 07
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴

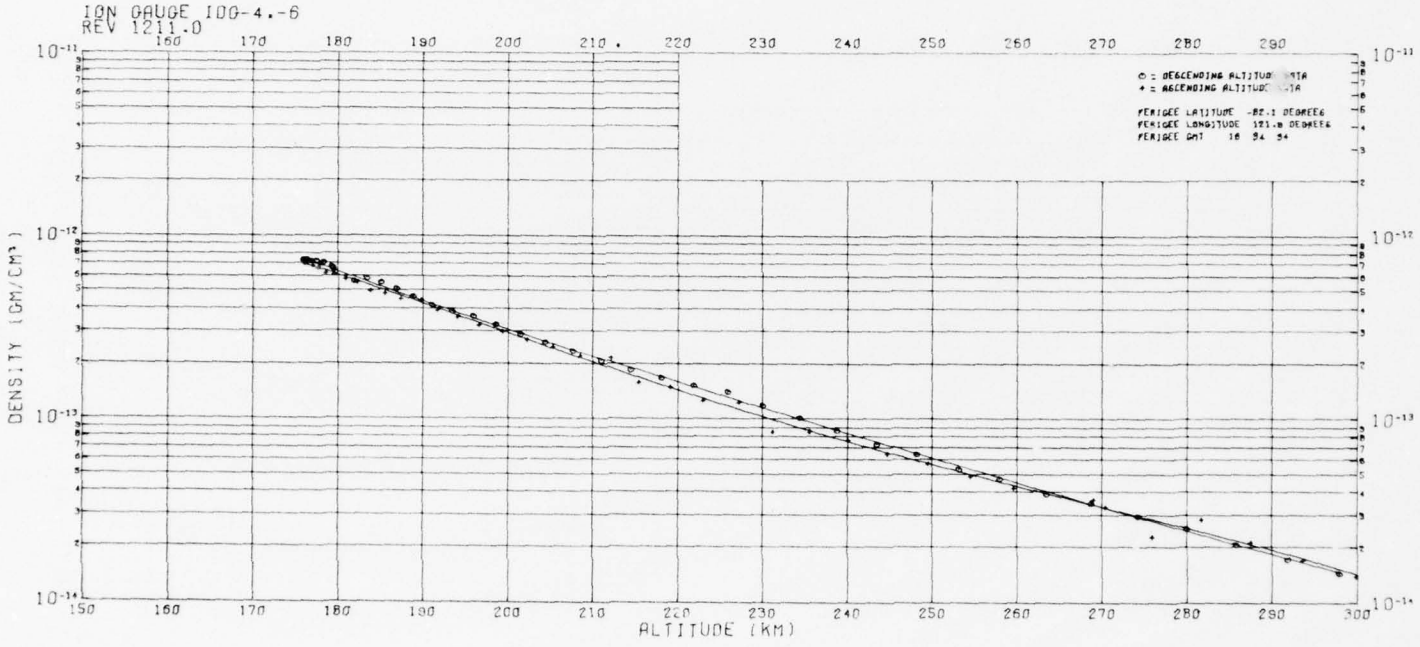

ION GAUGE ICO 4.-6
RE/ 1158.0
160 170 180 190 200 210 220 230 240 250 260 270 280 290
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
DENSITY (GM/CM³)
ALTITUDE (KM)
160 170 180 190 200 210 220 230 240 250 260 270 280 290 300
⊕ - DESCENDING ALTITUDE DATA
+ - ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -71.1 DEGREES
PERIGEE LONGITUDE 128.6 DEGREES
PERIGEE GMT 11 44 20

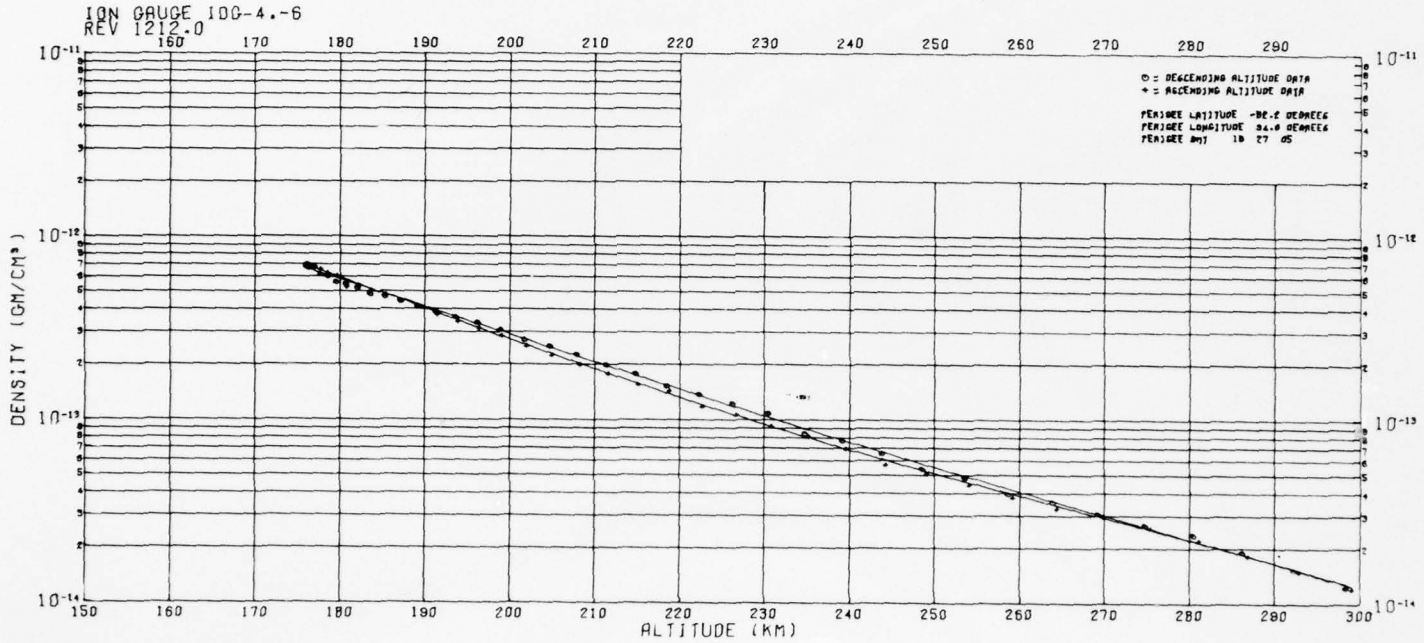

ION GAUGE IDG-4.-6
REV 1171.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -76.3 DEGREES
PERIGEE LONGITUDE 169.0 DEGREES
PERIGEE GMT 12 28 28
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

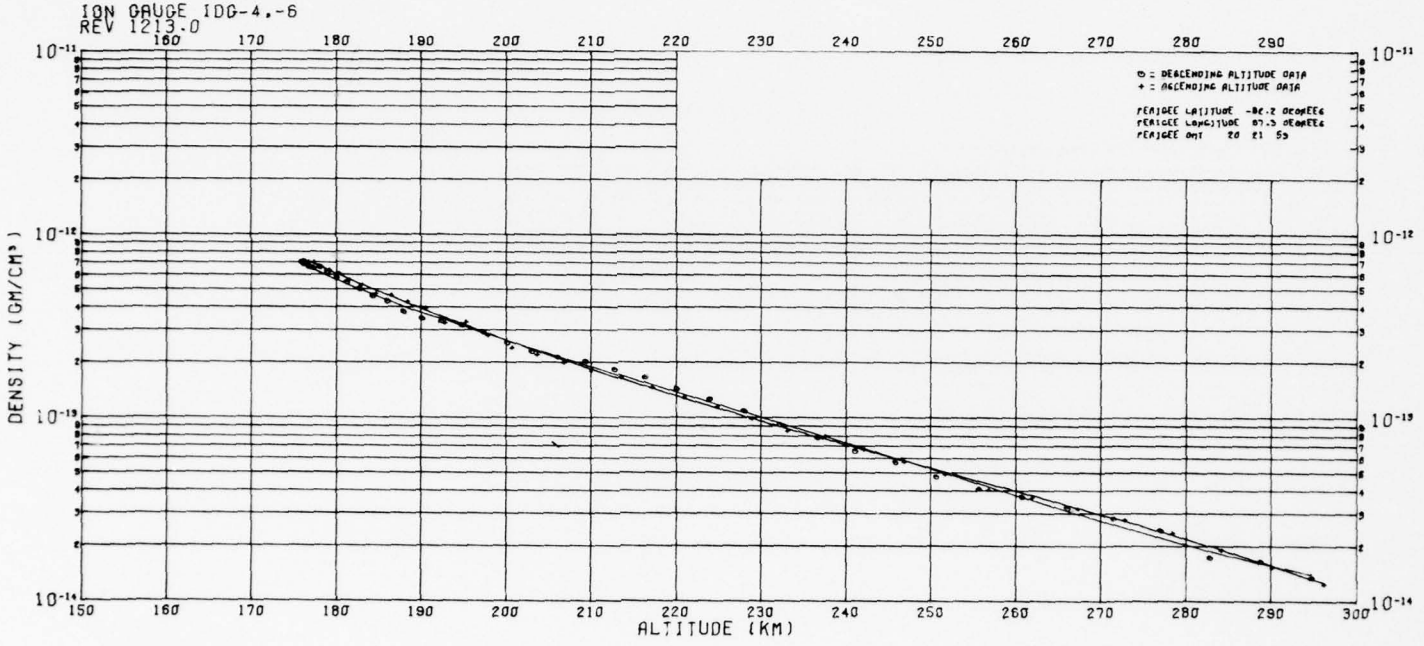

ION GAUGE IDG-4.-6
REV 1178.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -77.6 DEGREES
PERIGEE LONGITUDE 310.4 DEGREES
PERIGEE GMT 1 48 03

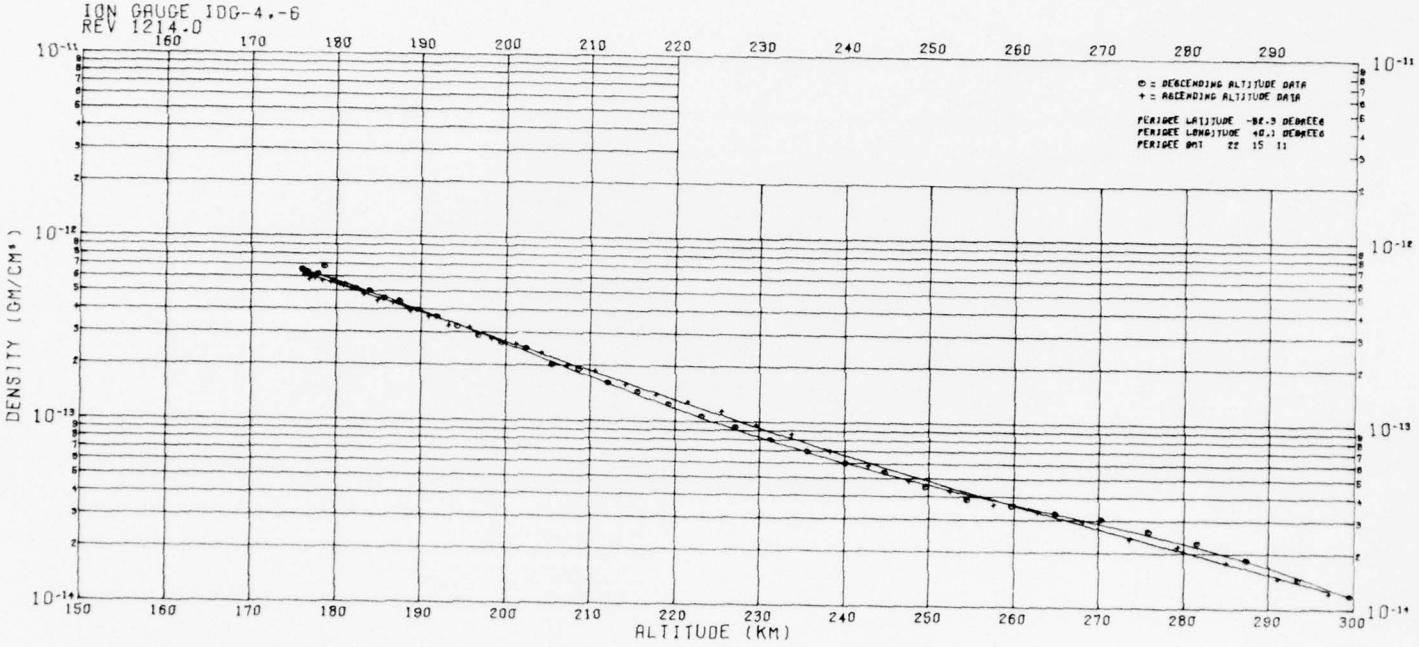

ION GAUGE IDG-4.-6
REV 1209.0
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
Φ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -81.9 DEGREES
PERIGEE LONGITUDE 178.6 DEGREES
PERIGEE GMT 1E 45 15

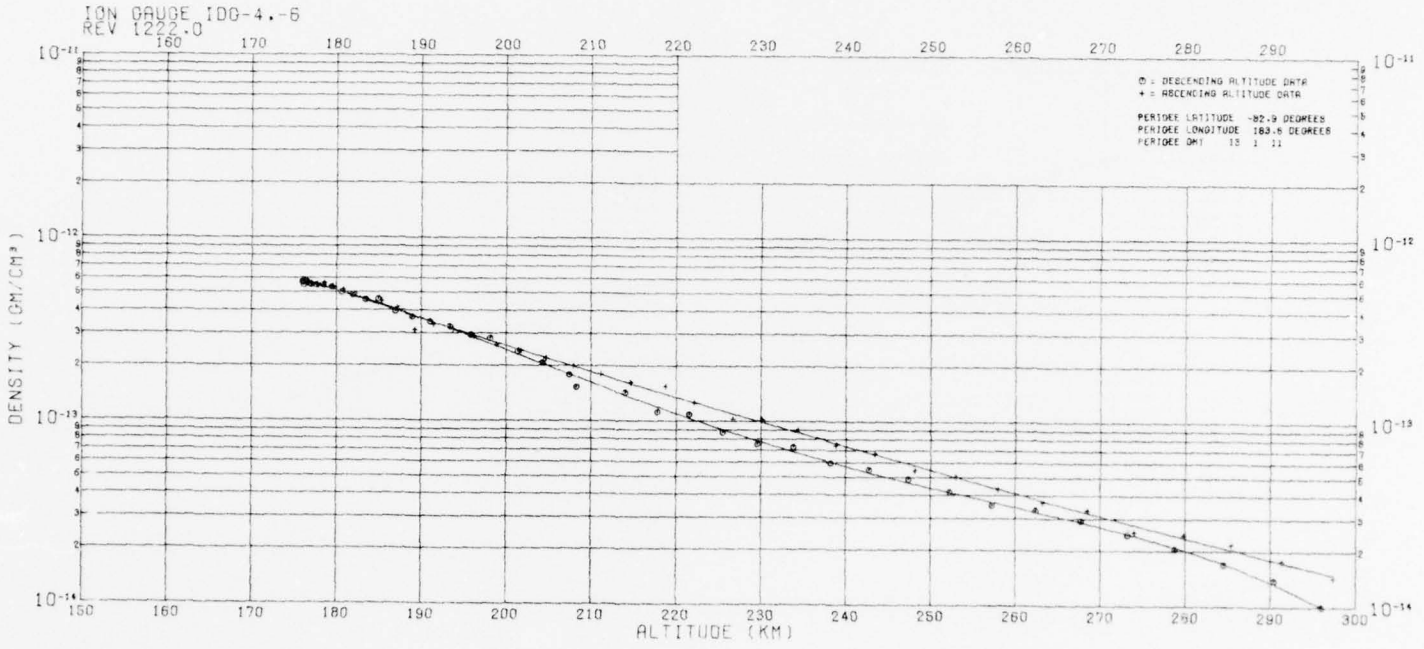

ION GAUGE IDG-4.-6
REV 1210.0
DENSITY (GM/CM³)
ALTITUDE (KM)
○ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA

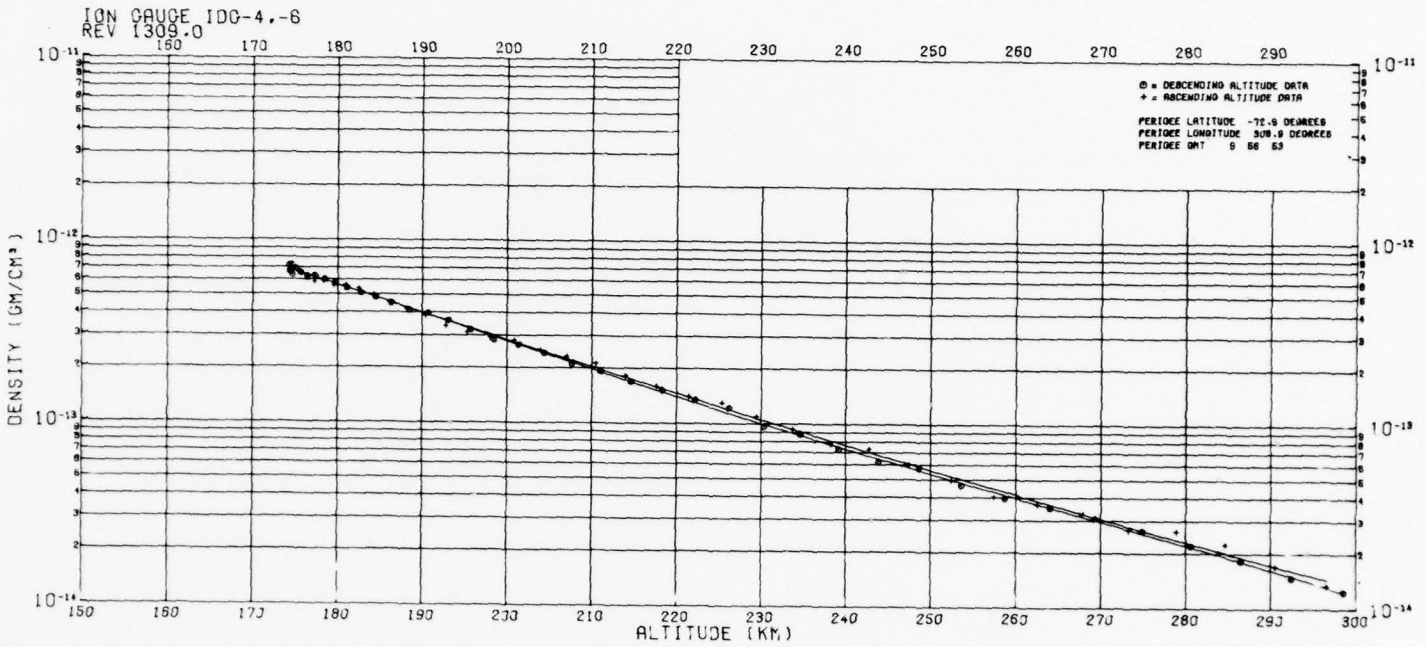

ION GAUGE IDG-4.-6
REV 1211.0
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
PERIGEE LATITUDE -82.1 DEGREES
PERIGEE GMT 16 34 54

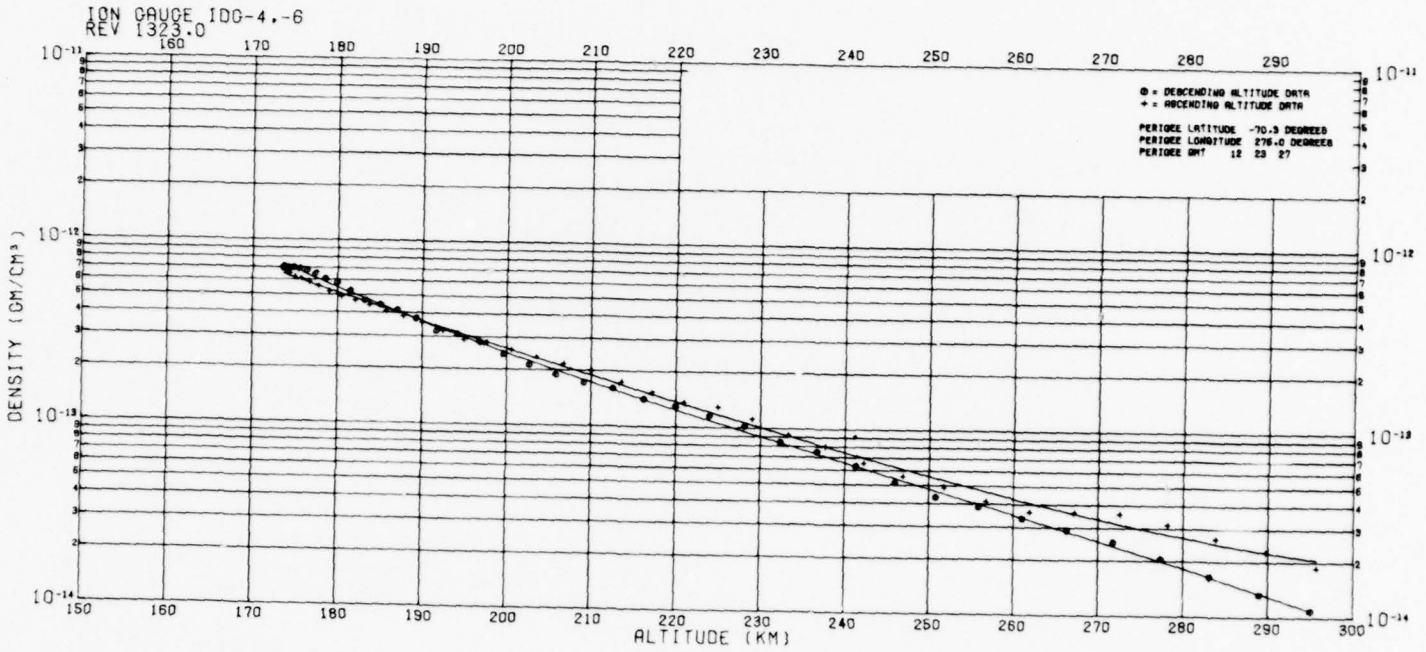

ION GAUGE IDG-4.-6
REV 1212.0
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
○ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -82.5 DEGREES
PERIGEE LONGITUDE 34.0 DEGREES
PERIGEE AMT 18 27 05

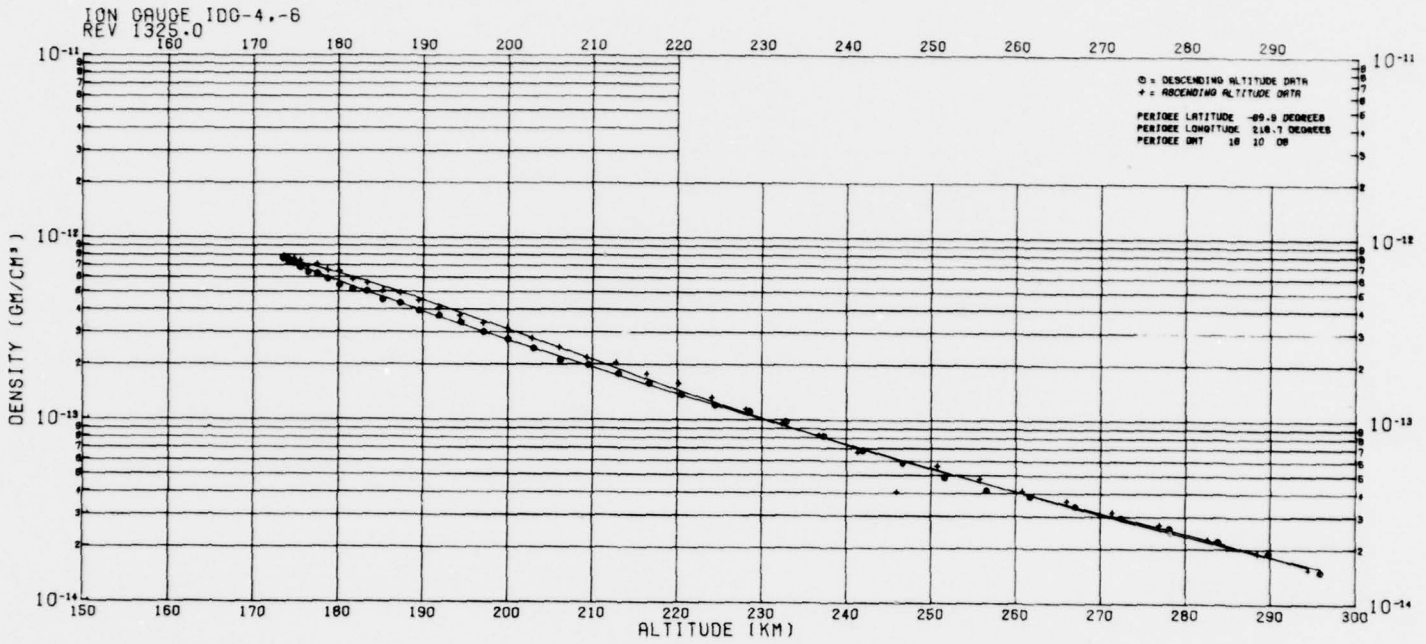

ION GAUGE IDG-4,-6
REV 1213.0
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
o = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -84.2 DEGREES
PERIGEE LONGITUDE 87.3 DEGREES
PERIGEE GMT 20 21 55

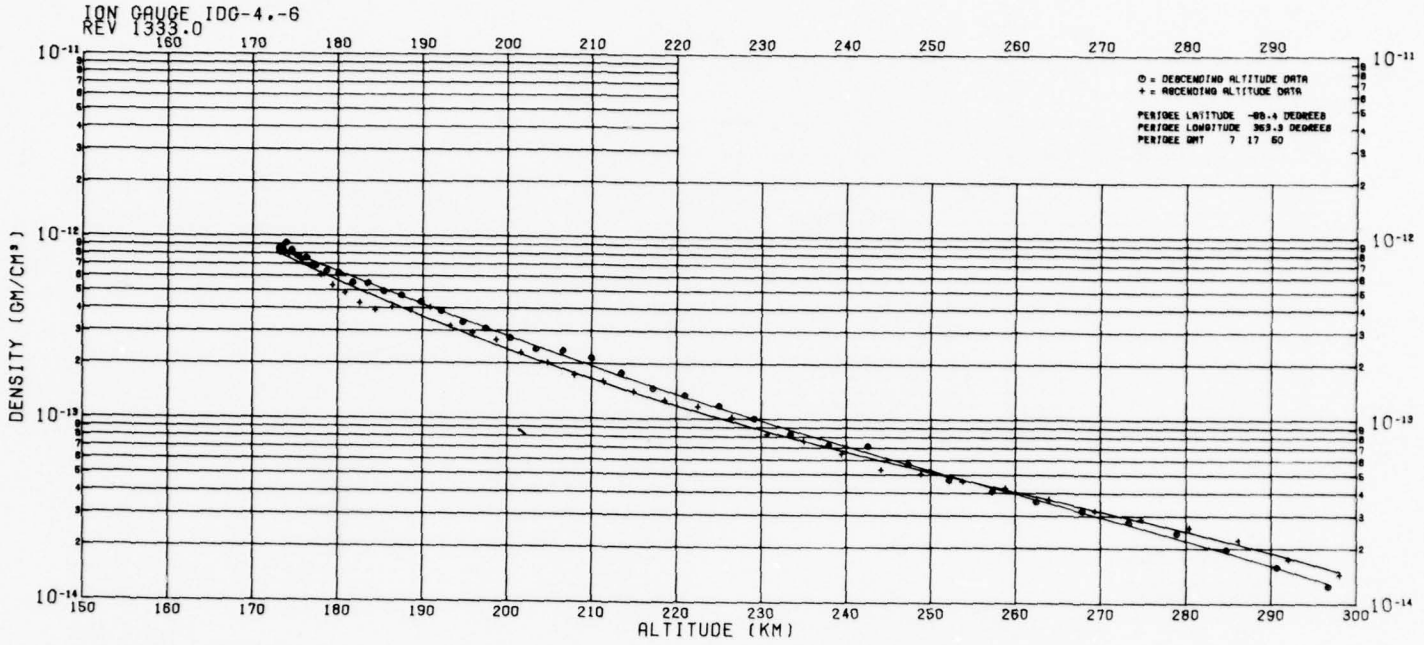

ION GAUGE IDG-4,-6
REV 1214.0
DENSITY (GM/CM³)
ALTITUDE (KM)
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -86.3 DEGREES
PERIGEE LONGITUDE 40.1 DEGREES
PERIGEE GMT 22 15 11


ION GAUGE IDG-4.-6
REV 1222.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -82.9 DEGREES
PERIGEE LONGITUDE 183.6 DEGREES
PERIGEE GMT 13 1 11


ION GAUGE IDG-4,-6
REV 1309.0
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -72.6 DEGREES
PERIGEE LONGITUDE 308.9 DEGREES
PERIGEE GMT 8 56 53
DENSITY (GM/CM³)
ALTITUDE (KM)


ION GAUGE IDG-4,-6
REV 1323.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -70.3 DEGREES
PERIGEE LONGITUDE 276.0 DEGREES
PERIGEE GMT 12 23 27


ION GAUGE IDG-4,-6
REV 1325.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -89.8 DEGREES
PERIGEE LONGITUDE 218.7 DEGREES
PERIGEE GMT 18 10 08
DENSITY (GM/CM³)
ALTITUDE (KM)


ION GAUGE IDG-4,-6
REV 1333.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -88.4 DEGREES
PERIGEE LONGITUDE 363.3 DEGREES
PERIGEE GMT 7 17 60
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
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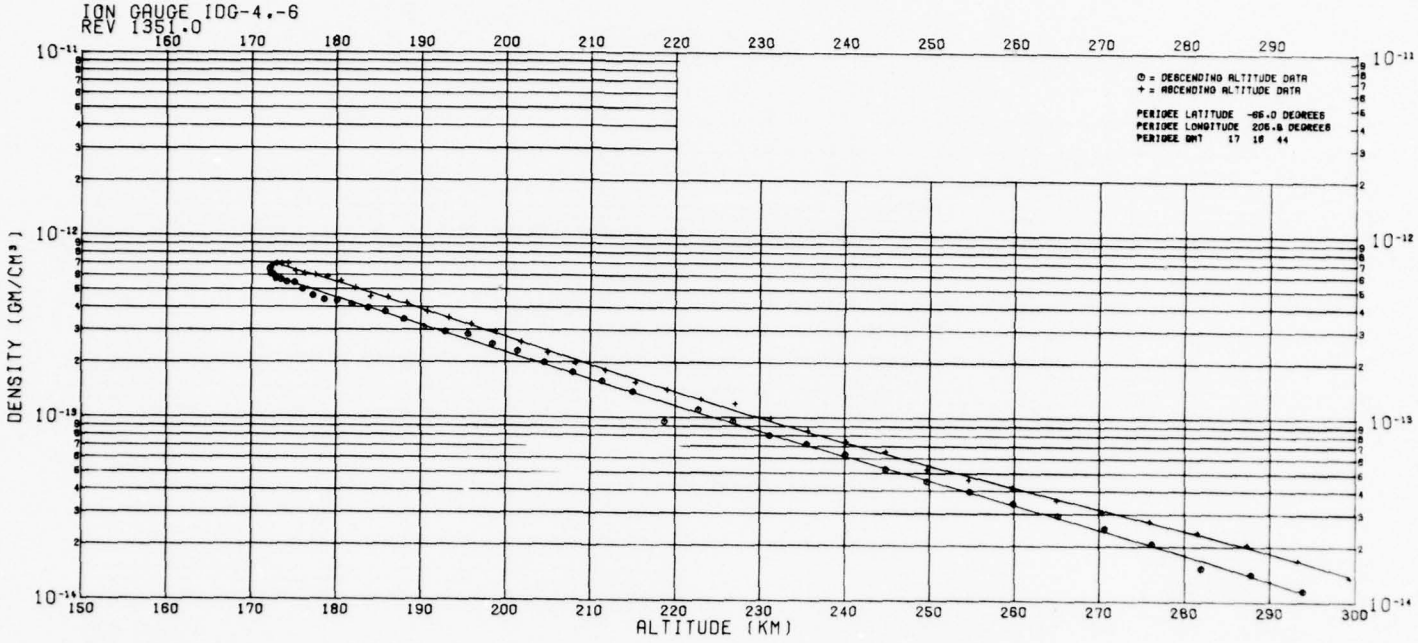
220
230
240
250
260
270
280
290
300


ION GAUGE IDG-4.-6
REV 1351.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -65.0 DEGREES
PERIGEE LONGITUDE 206.8 DEGREES
PERIGEE GMT 17 18 44
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
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230
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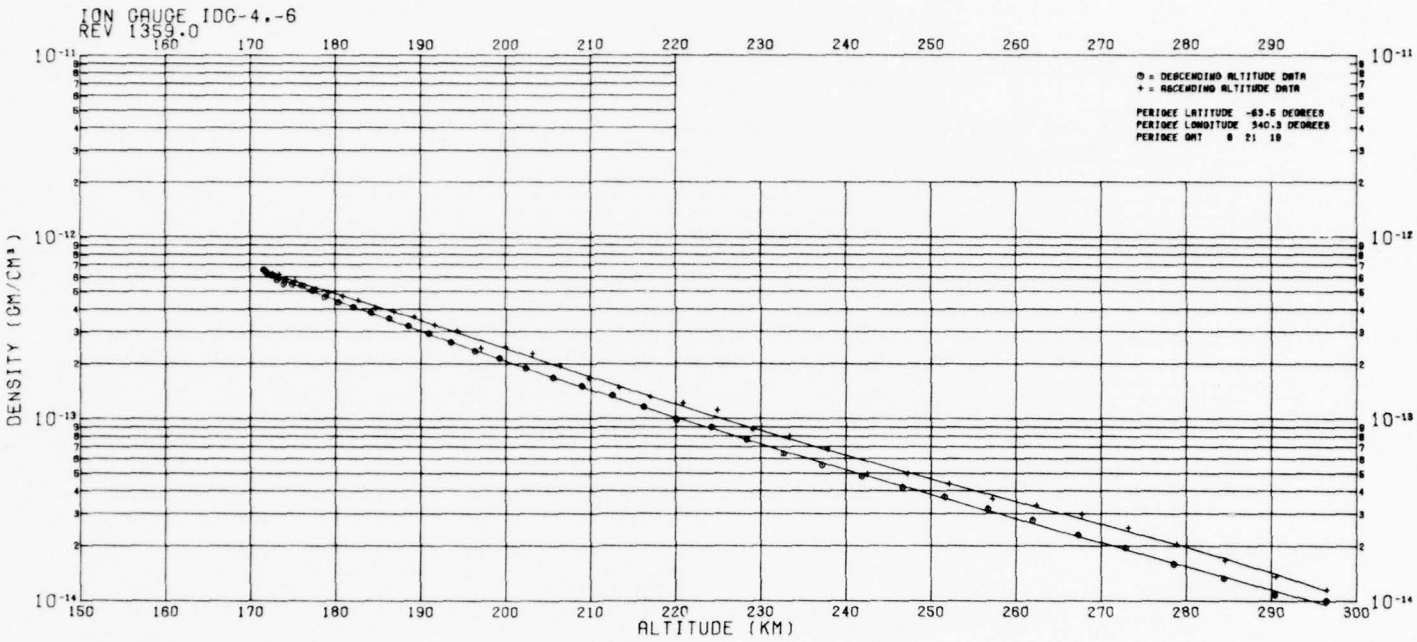
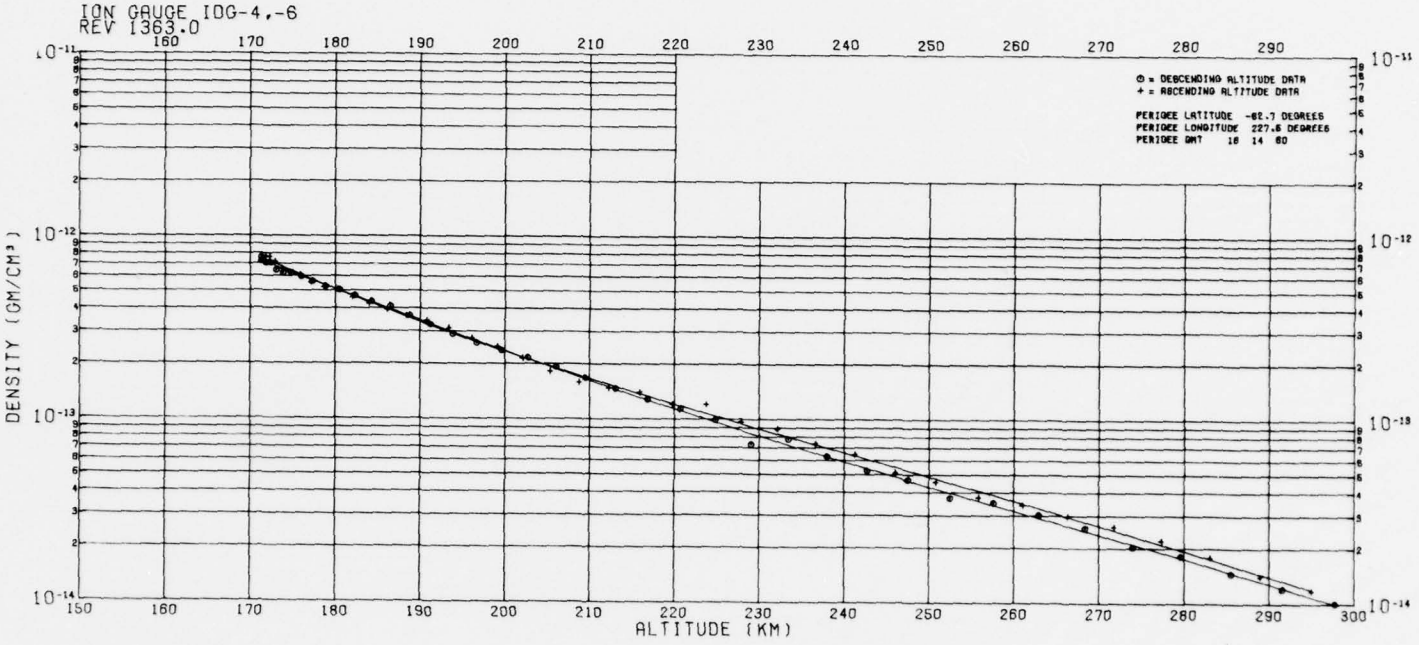
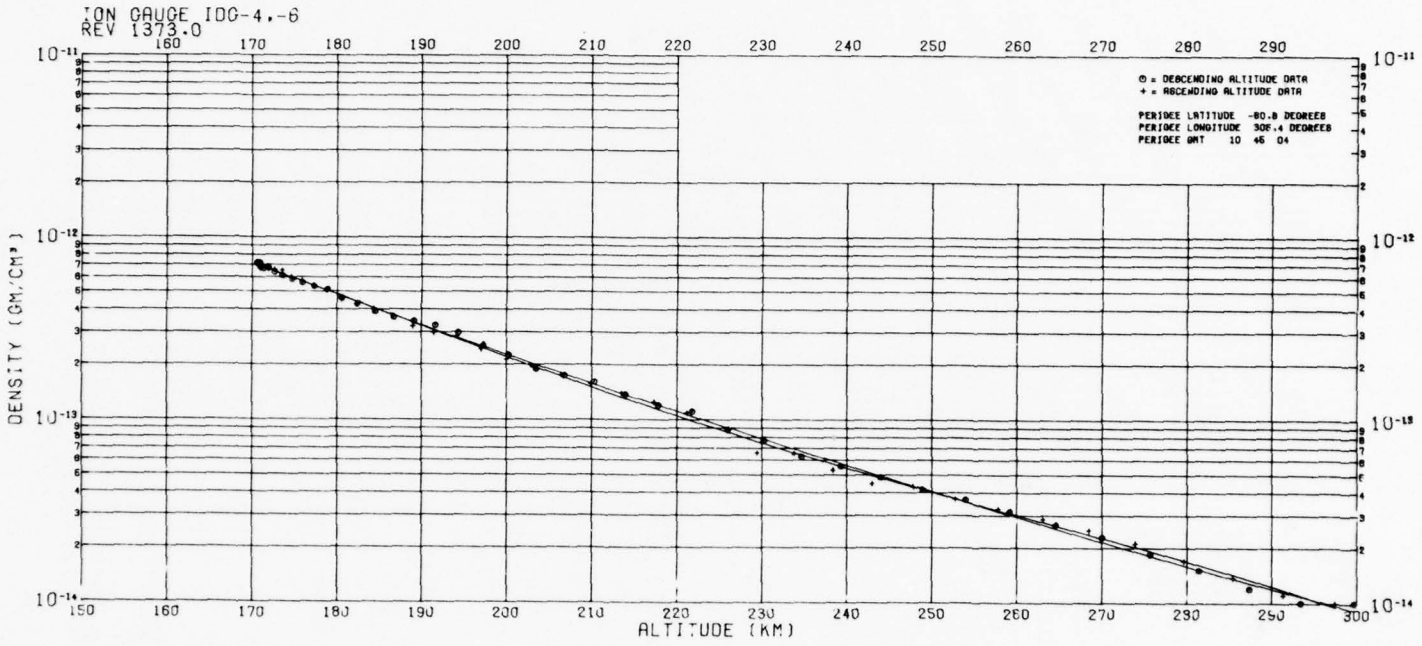
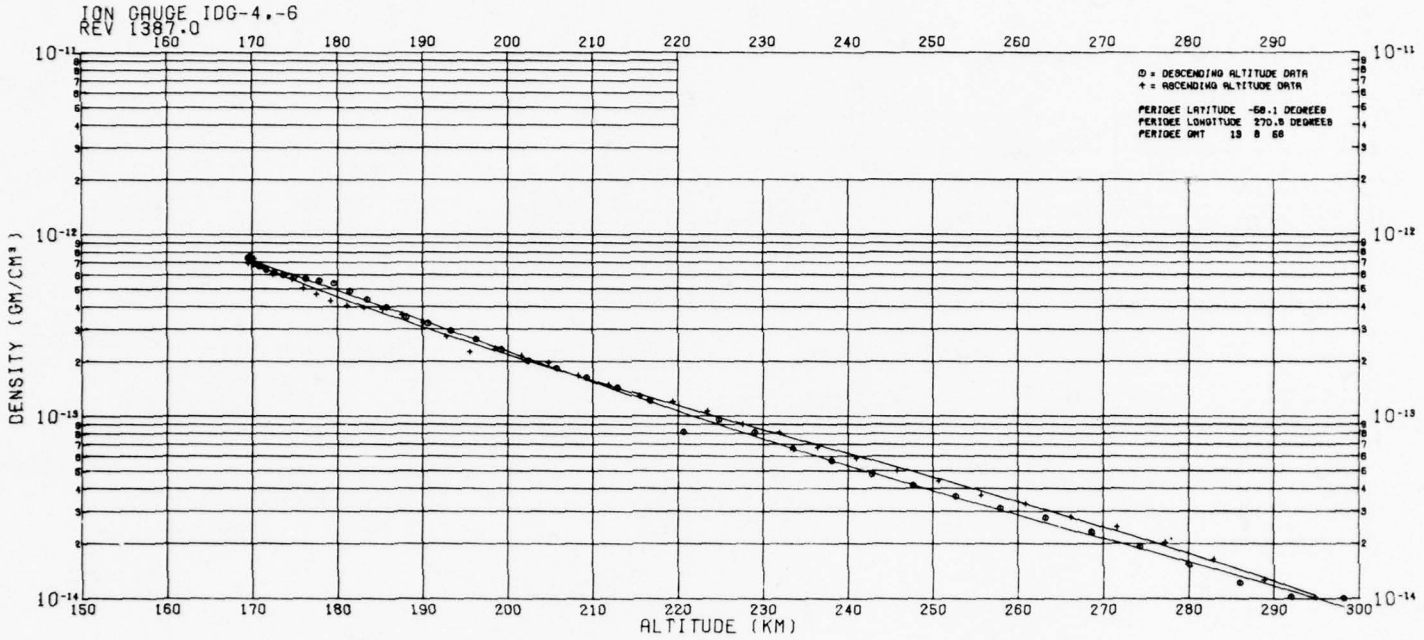
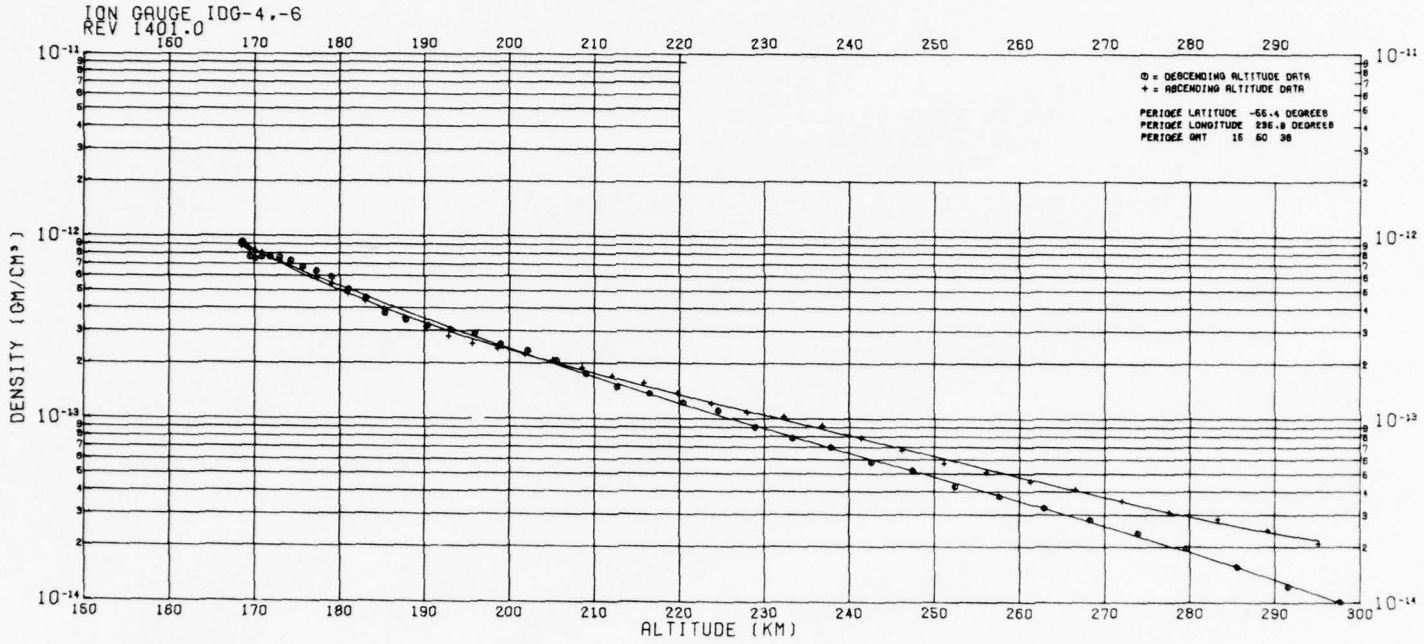
250
260
270
280
290
300

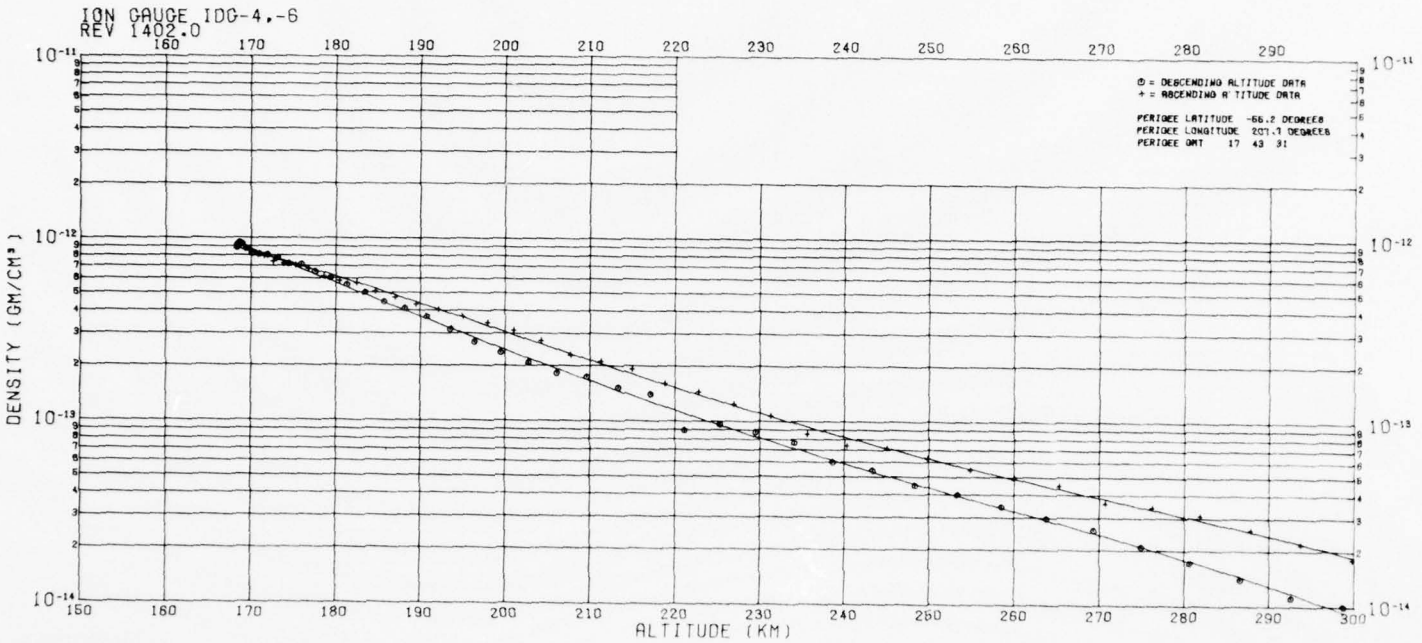

ION GAUGE IDG-4.-6
REV 1359.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -69.6 DEGREES
PERIGEE LONGITUDE 340.3 DEGREES
PERIGEE GMT 8 21 10
DENSITY (GM/CM³)
ALTITUDE (KM)

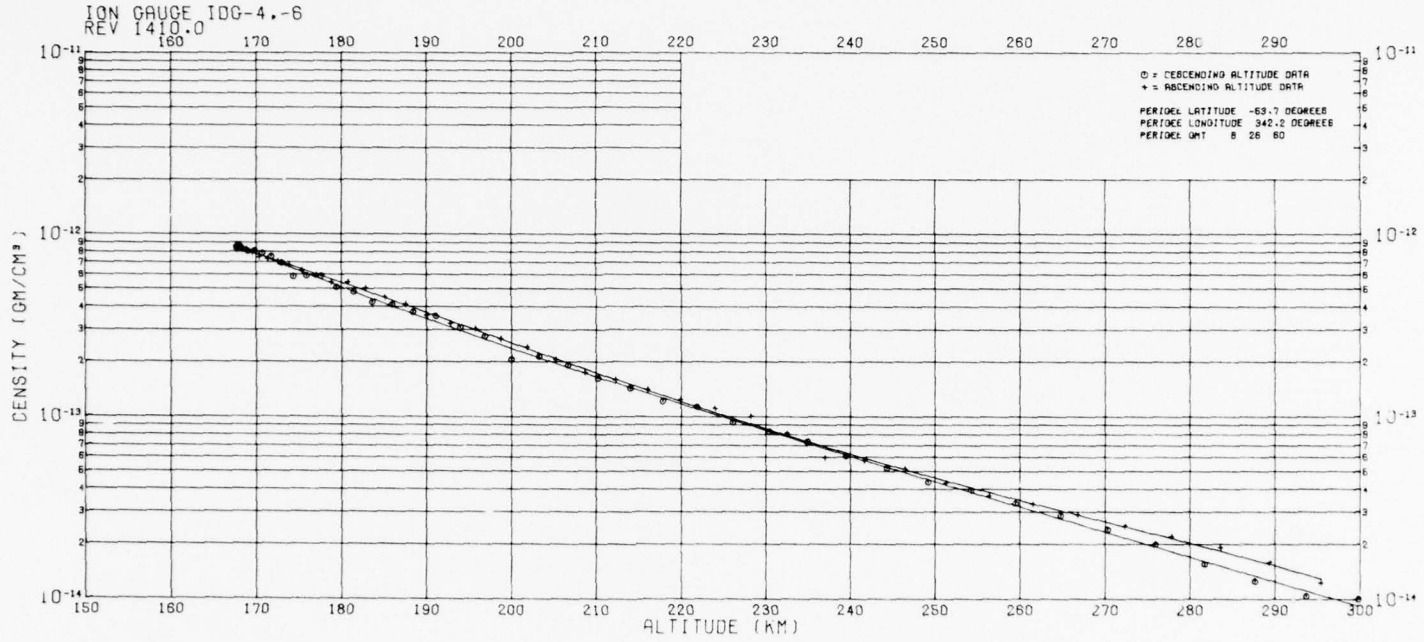

ION GAUGE IDG-4,-6
REV 1363.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -82.7 DEGREES
PERIGEE LONGITUDE 227.6 DEGREES
PERIGEE GMT 18 14 60
DENSITY (GM/CM³)
ALTITUDE (KM)

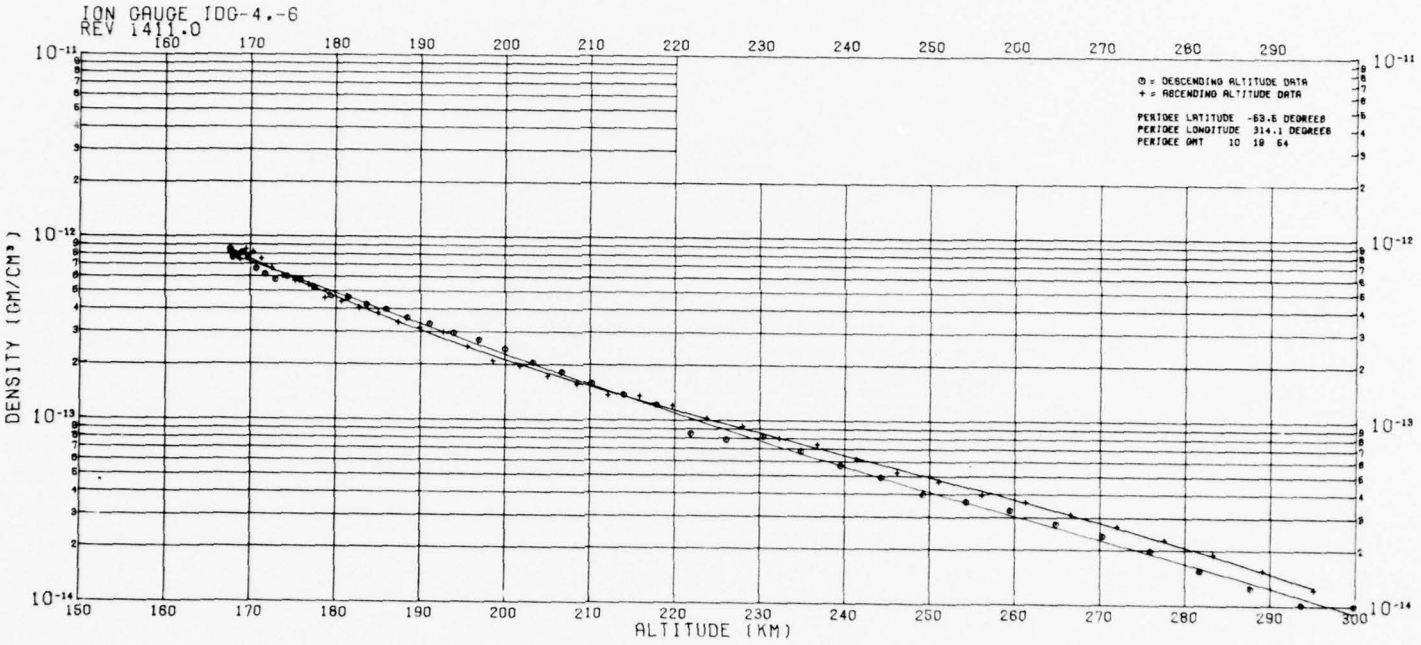

ION GAUGE IDG-4,-6
REV 1373.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -80.8 DEGREES
PERIGEE LONGITUDE 308.4 DEGREES
PERIGEE GMT 10 46 04
DENSITY (GM/CM³)
ALTITUDE (KM)

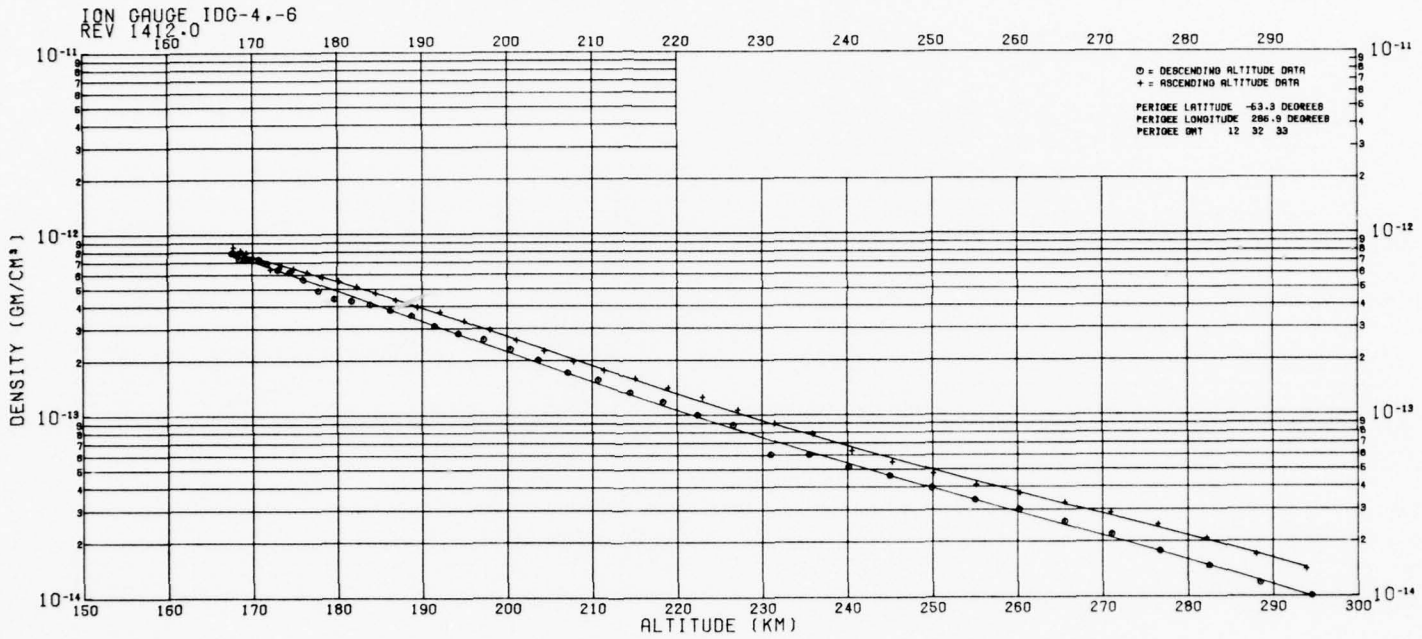

ION GAUGE IDG-4,-6
REV 1387.0
Ø = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -68.1 DEGREES
PERIGEE LONGITUDE 270.8 DEGREES
PERIGEE GMT 13 8 58
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

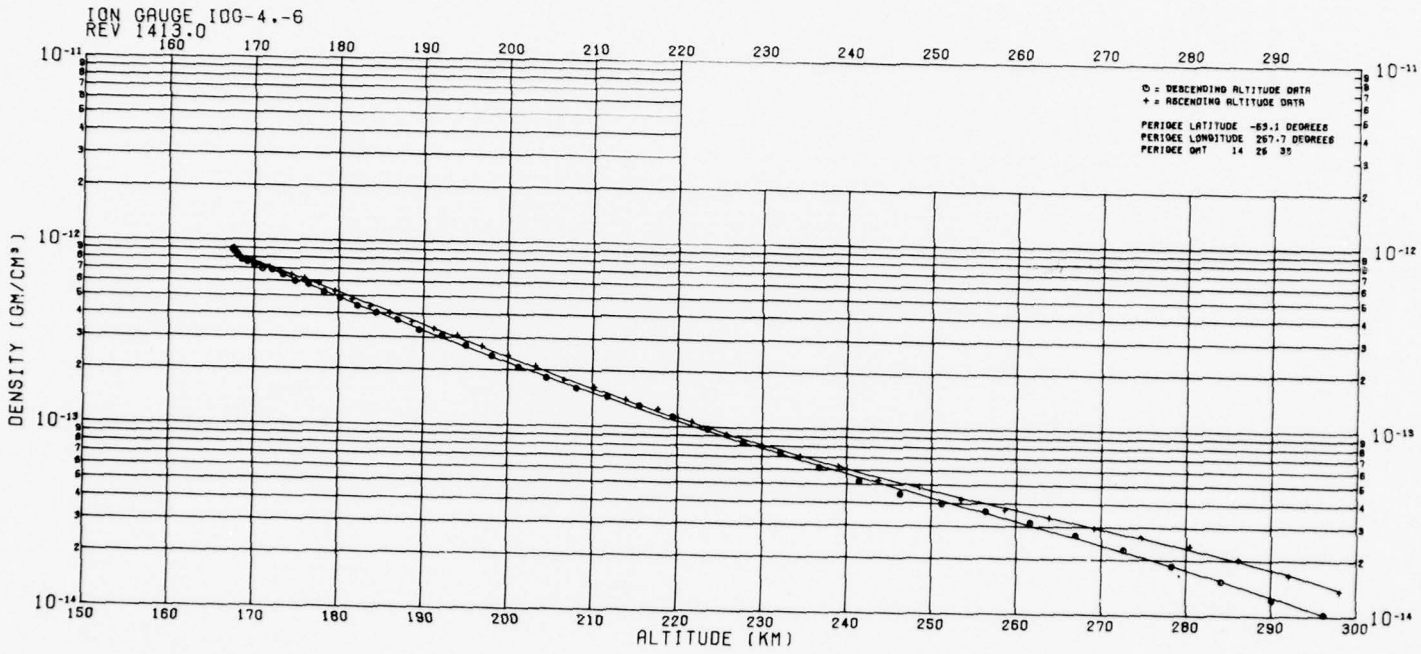

ION GAUGE IDG-4,-6
REV 1401.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -66.4 DEGREES
PERIGEE LONGITUDE 236.8 DEGREES
PERIGEE GMT 15 60 30

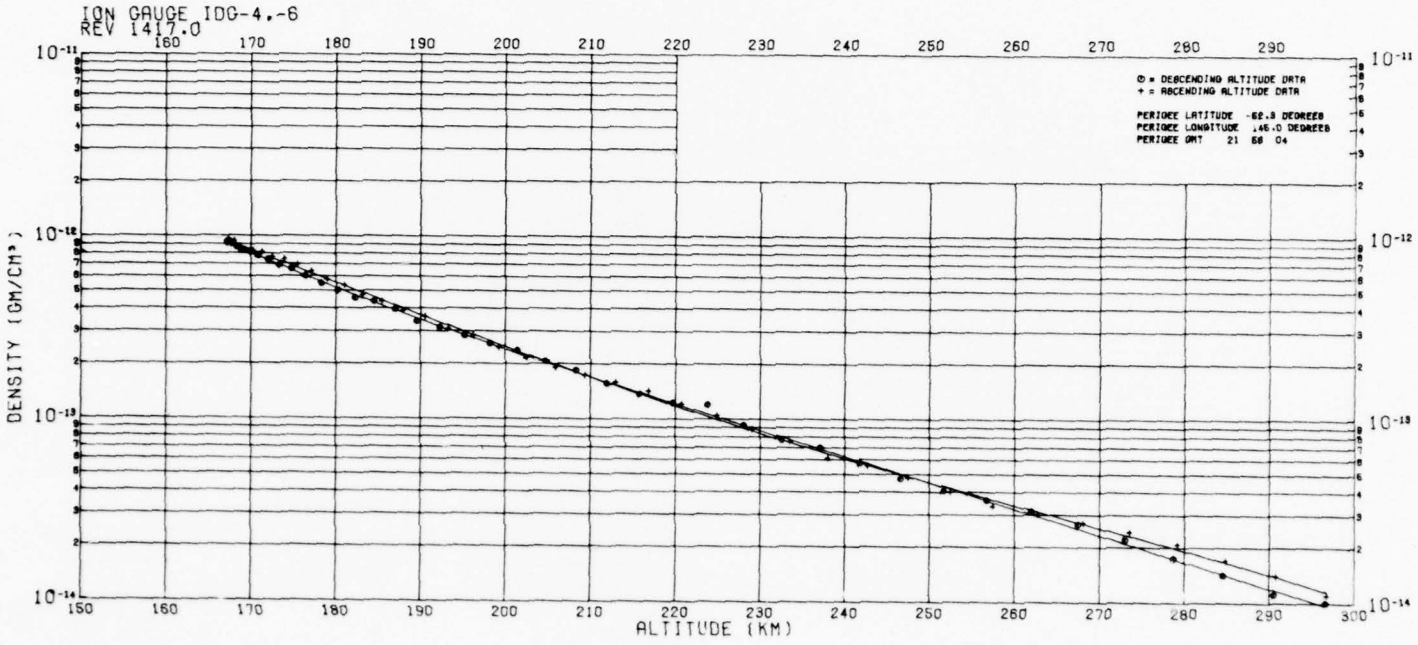

ION GAUGE IDG-4,-6
REV 1402.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -66.2 DEGREES
PERIGEE LONGITUDE 207.1 DEGREES
PERIGEE GMT 17 43 31

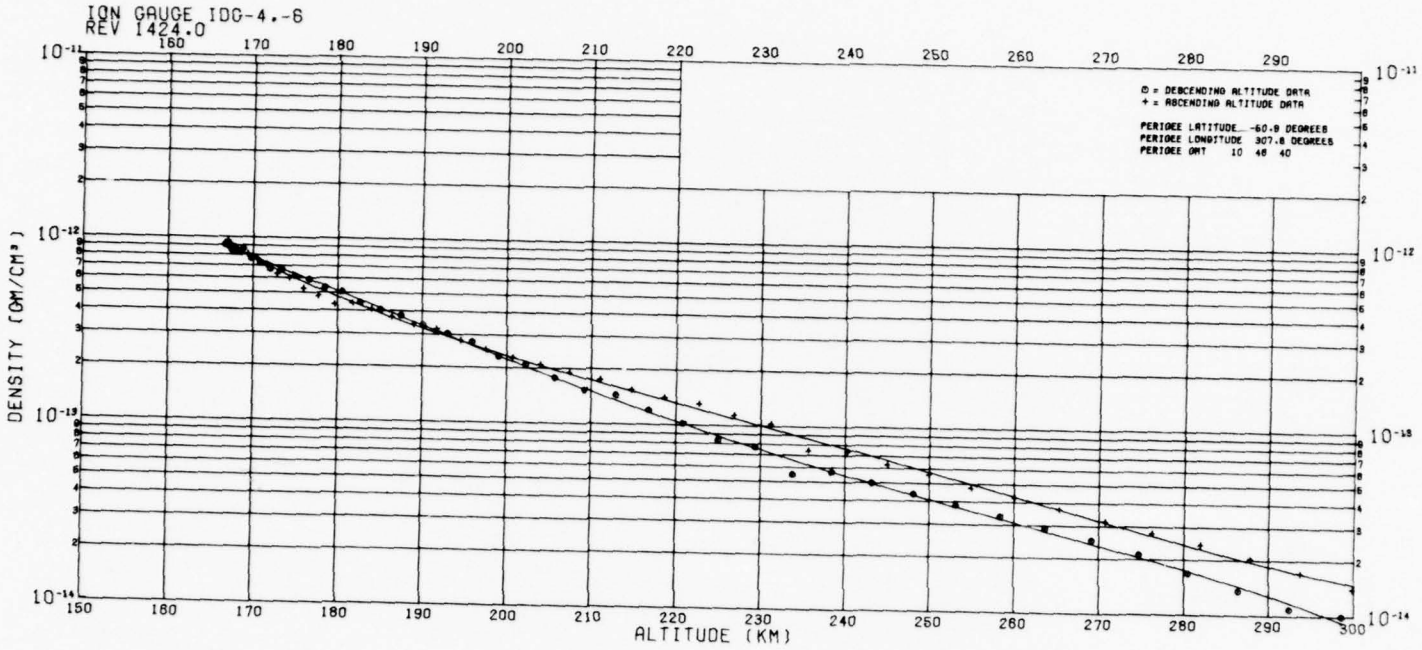

ION GAUGE IDG-4.-6
REV 1410.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -63.7 DEGREES
PERIGEE LONGITUDE 342.2 DEGREES
PERIGEE GMT 8 26 80
DENSITY (GM/CM³)
ALTITUDE (KM)

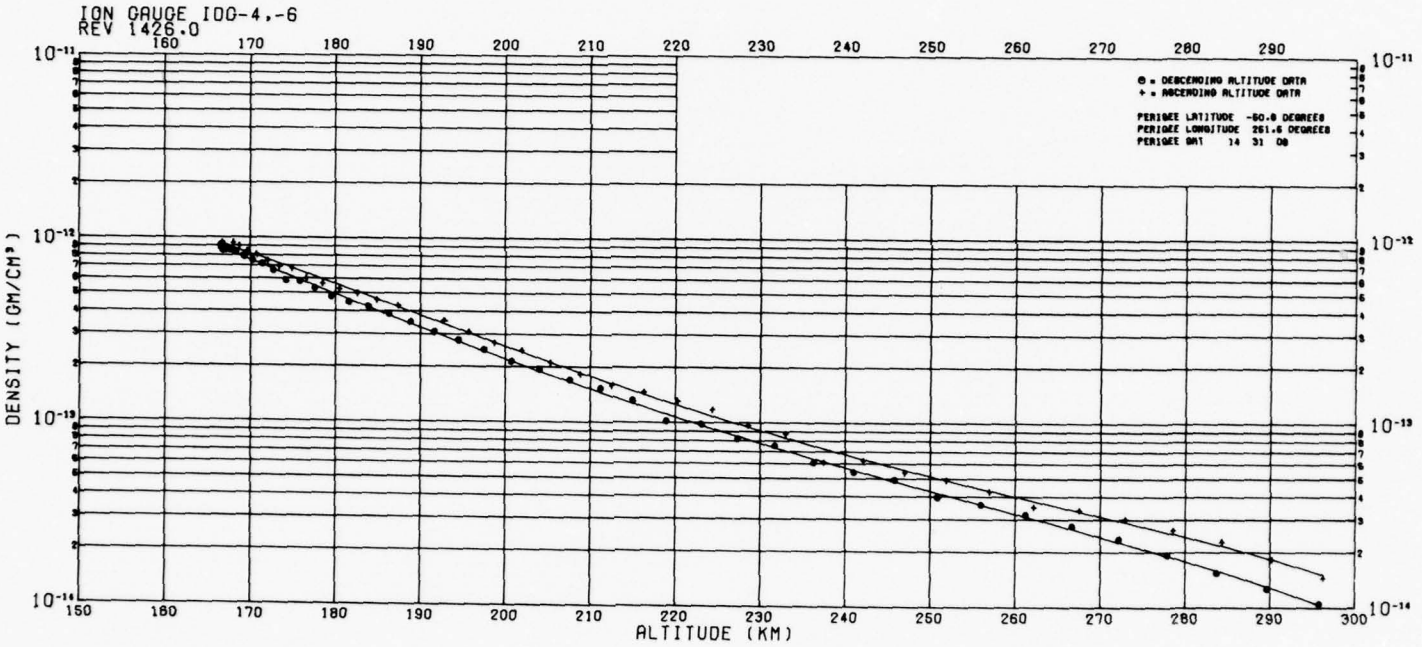

ION GAUGE IDG-4,-6
REV 1411.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -63.6 DEGREES
PERIGEE LONGITUDE 314.1 DEGREES
PERIGEE GMT 10 19 54
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

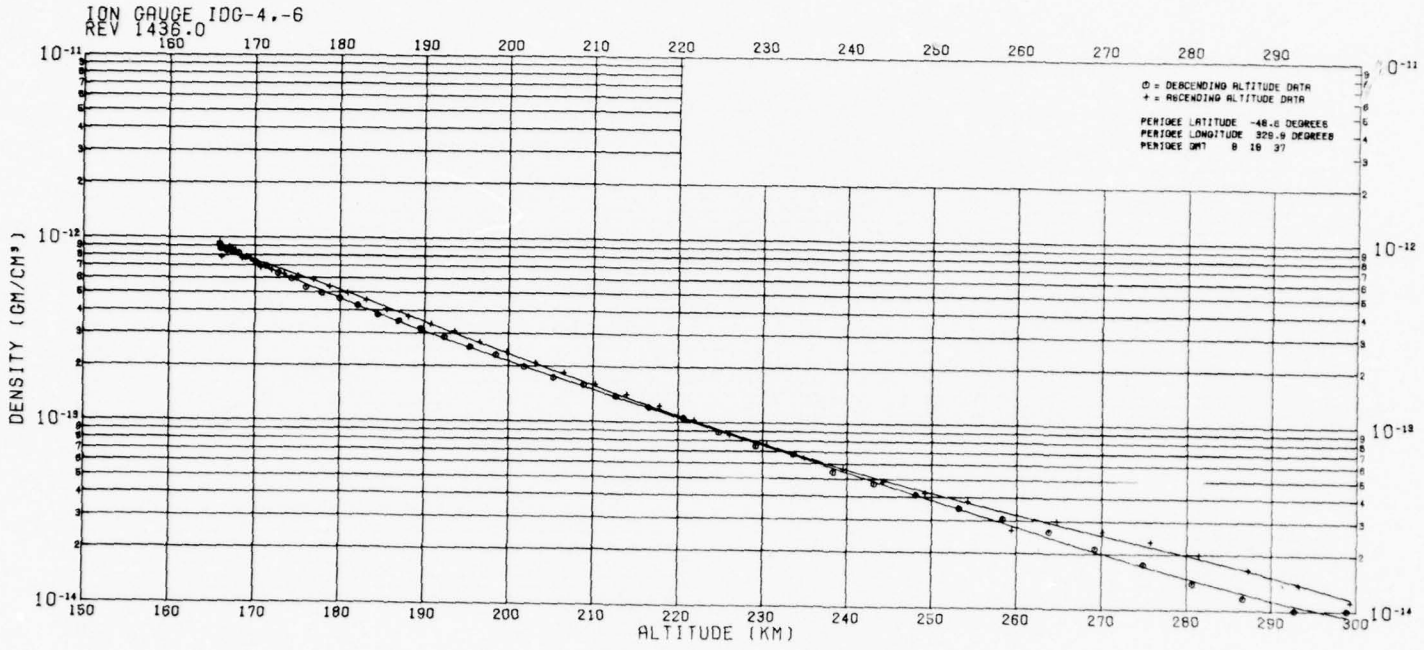

ION GAUGE IDG-4,-6
REV 1412.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -63.3 DEGREES
PERIGEE LONGITUDE 286.9 DEGREES
PERIGEE GMT 12 32 33

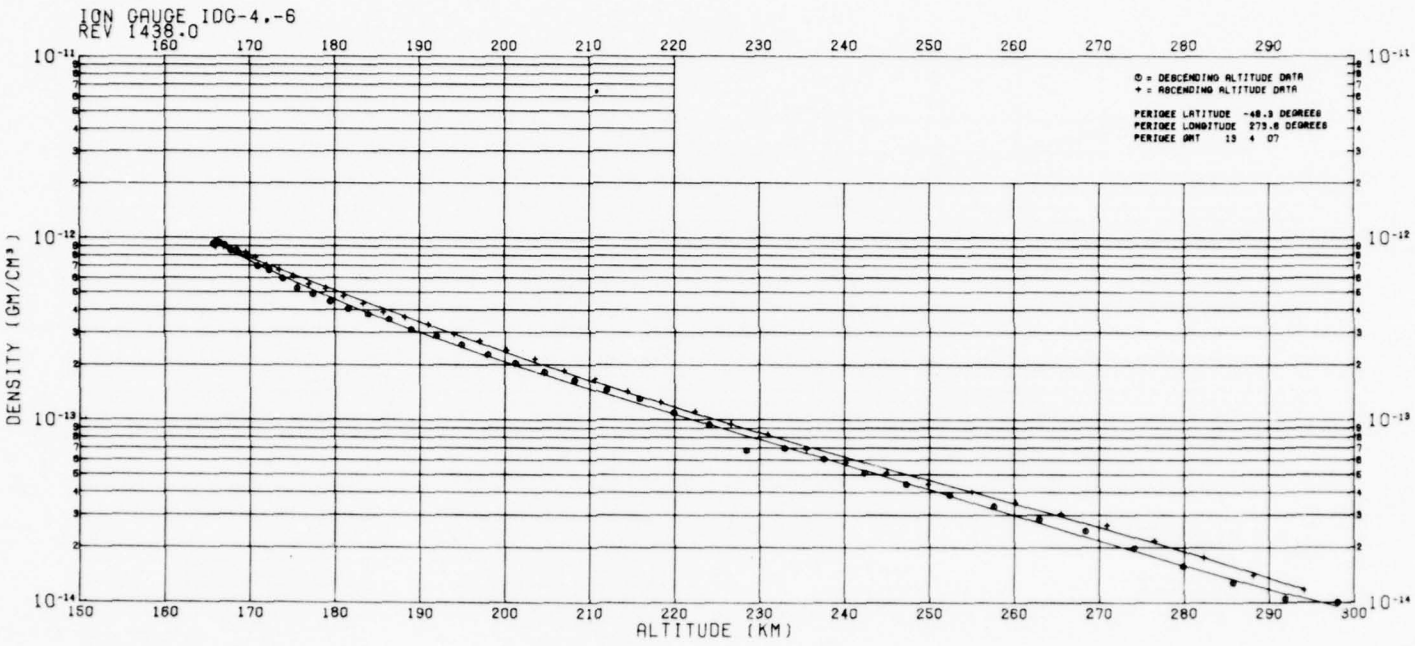

ION GAUGE IDG-4.-6
REV 1413.0
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -69.1 DEGREES
PERIGEE LONGITUDE 267.7 DEGREES
PERIGEE GMT 14 26 35
DENSITY (GM/CM³)
ALTITUDE (KM)

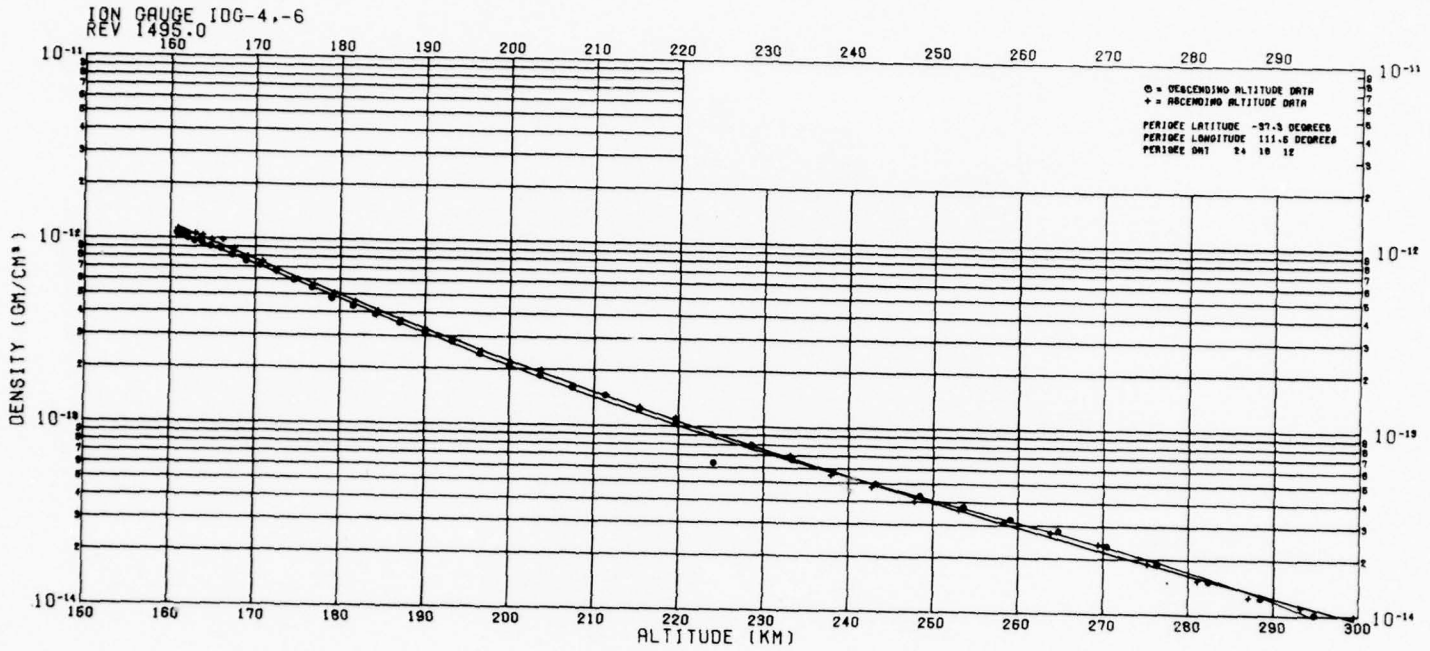

ION GAUGE IDG-4.-6
REV 1417.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -62.3 DEGREES
PERIGEE LONGITUDE 145.0 DEGREES
PERIGEE GMT 21 58 04
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

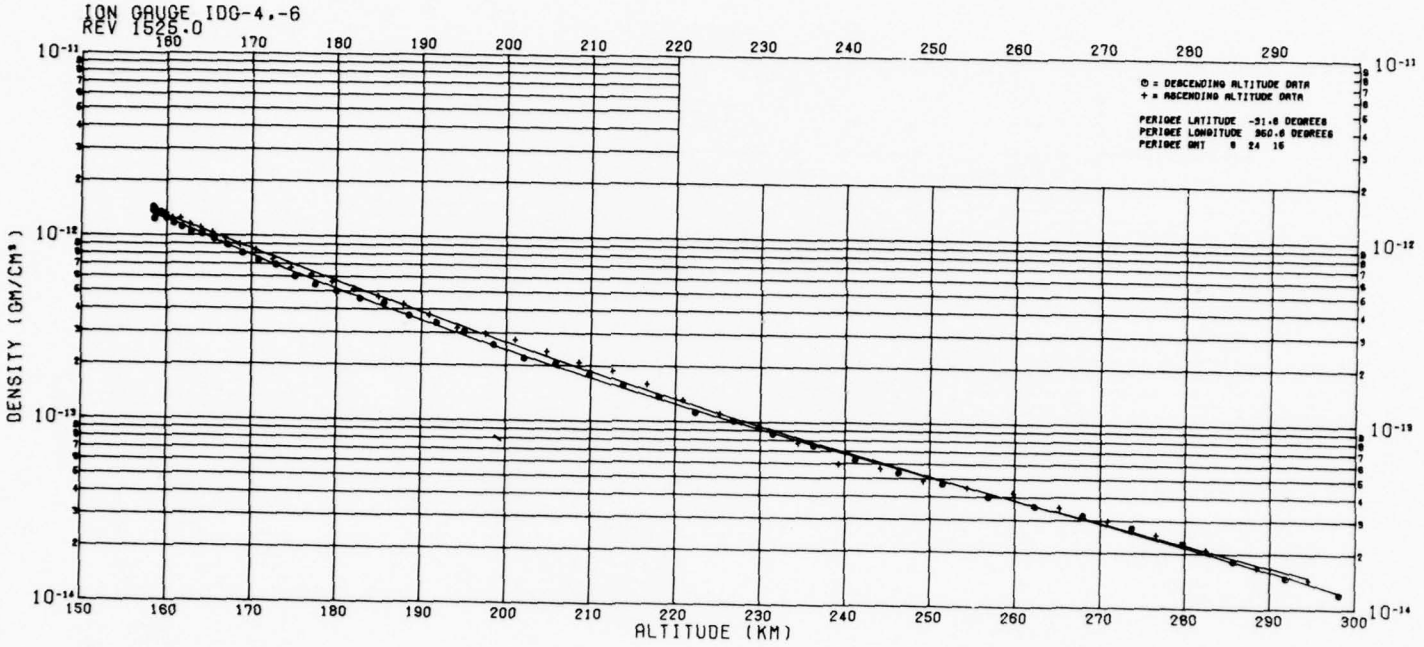

ION GAUGE IDG-4,-6
REV 1424.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -60.9 DEGREES
PERIGEE LONGITUDE 307.8 DEGREES
PERIGEE GMT 10 48 40


ION GAUGE IOG-4,-6
REV 1426.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -60.8 DEGREES
PERIGEE LONGITUDE 261.6 DEGREES
PERIGEE GMT 14 31 00


ION GAUGE IDG-4,-6
REV 1436.0
DENSITY (GM/CM³)
ALTITUDE (KM)
Φ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -48.6 DEGREES
PERIGEE LONGITUDE 329.9 DEGREES
PERIGEE GMT 8 18 37


ION GAUGE IDG-4.-6
REV 1438.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -48.9 DEGREES
PERIGEE LONGITUDE 273.8 DEGREES
PERIGEE GMT 13 4 07
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300


ION GAUGE IDG-4,-6
REV 1495.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -37.3 DEGREES
PERIGEE LONGITUDE 111.6 DEGREES
PERIGEE DAY 24 18 12


ION GAUGE IDG-4,-6
REV 1525.0
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -31.8 DEGREES
PERIGEE LONGITUDE 360.0 DEGREES
PERIGEE GMT 0 24 16
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
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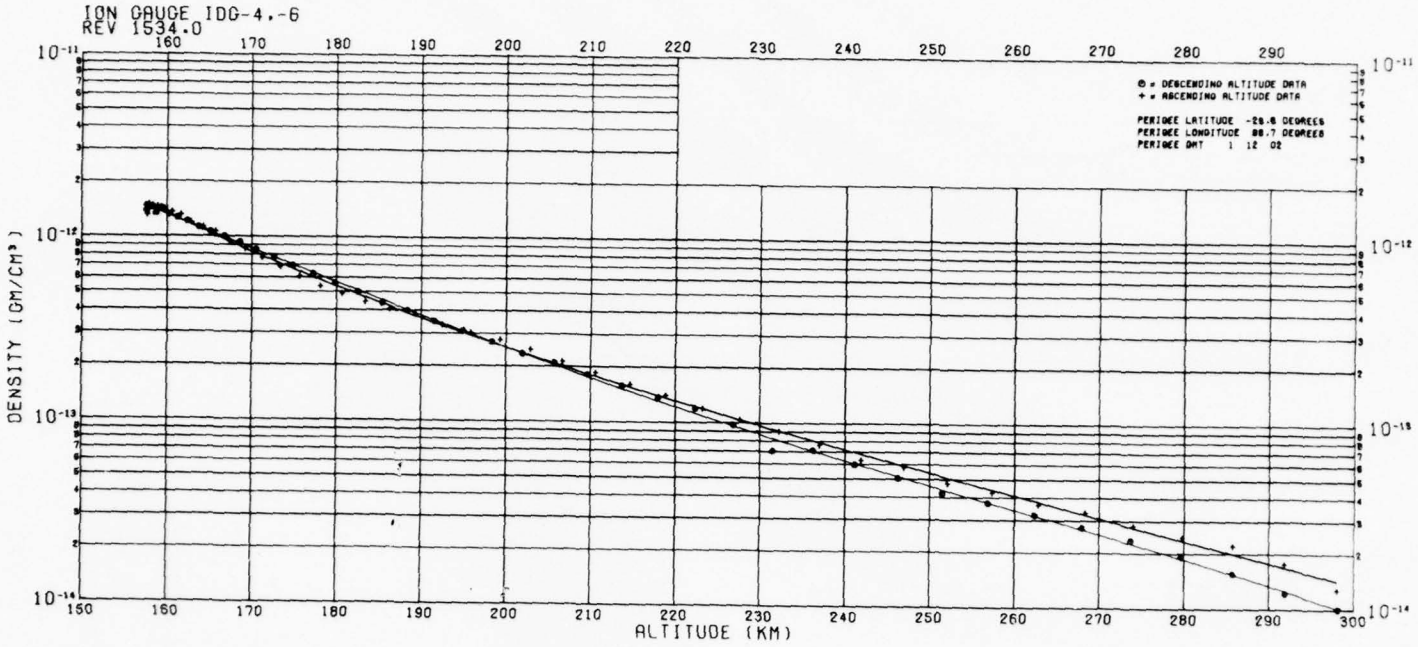
230
240
250
260
270
280
290
300


ION GAUGE IDG-4,-6
REV 1534.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -28.8 DEGREES
PERIGEE LONGITUDE 88.7 DEGREES
PERIGEE GMT 1 12 02
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
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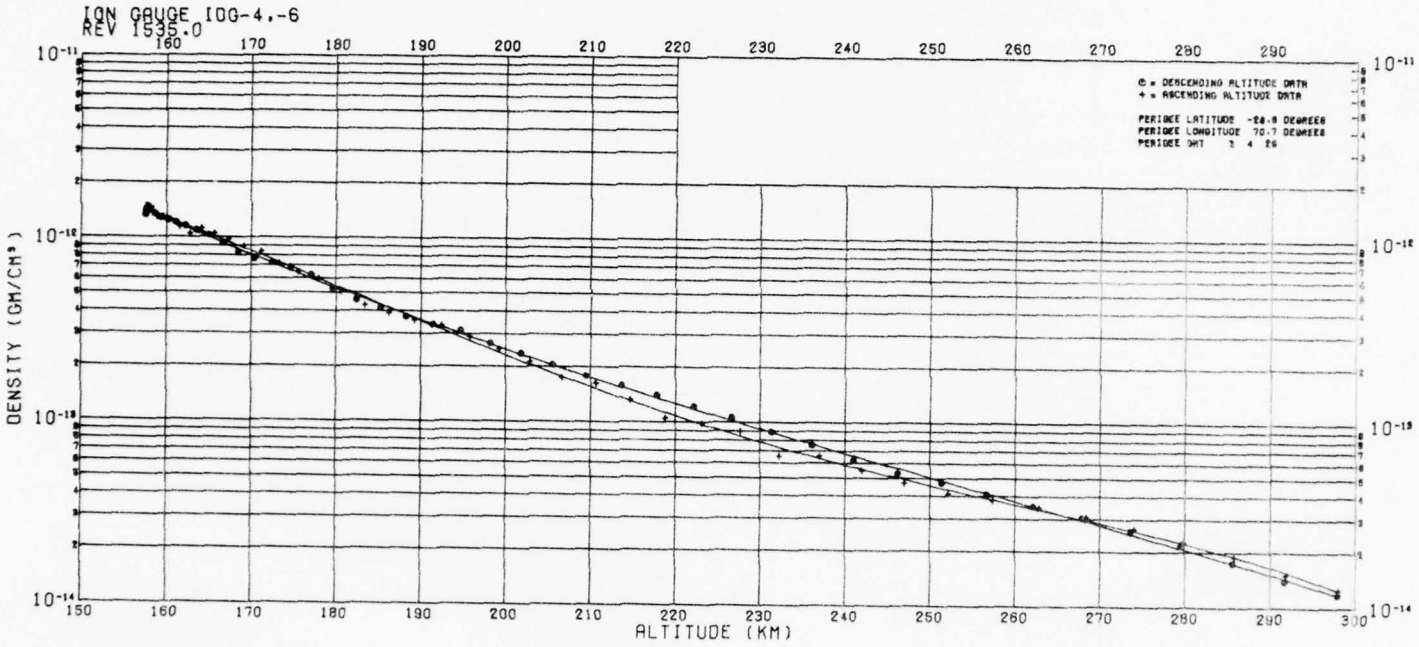
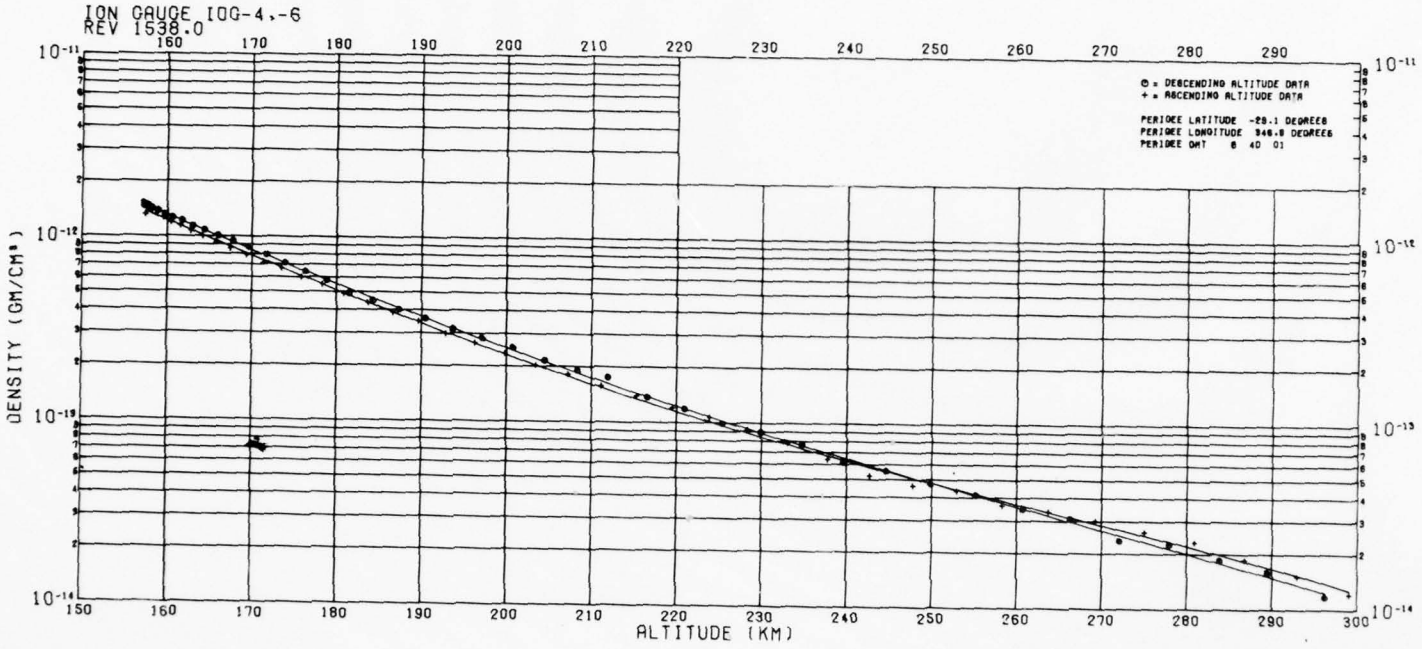
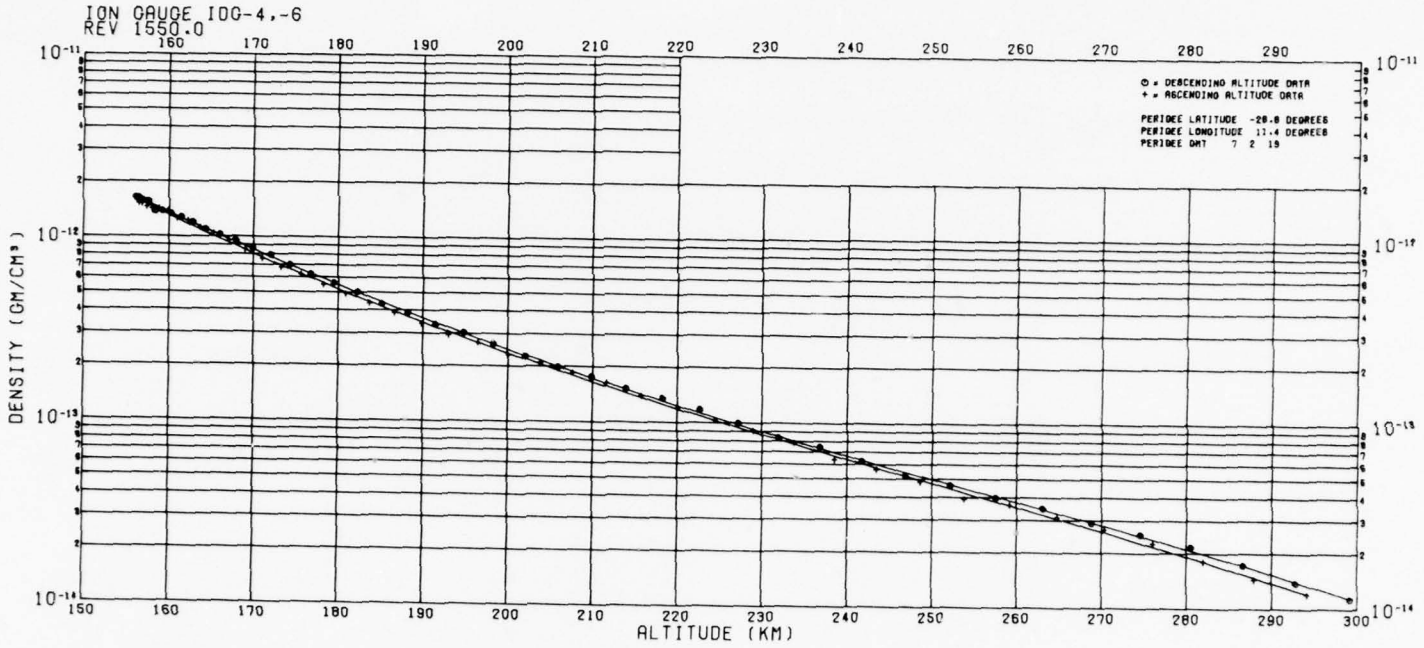
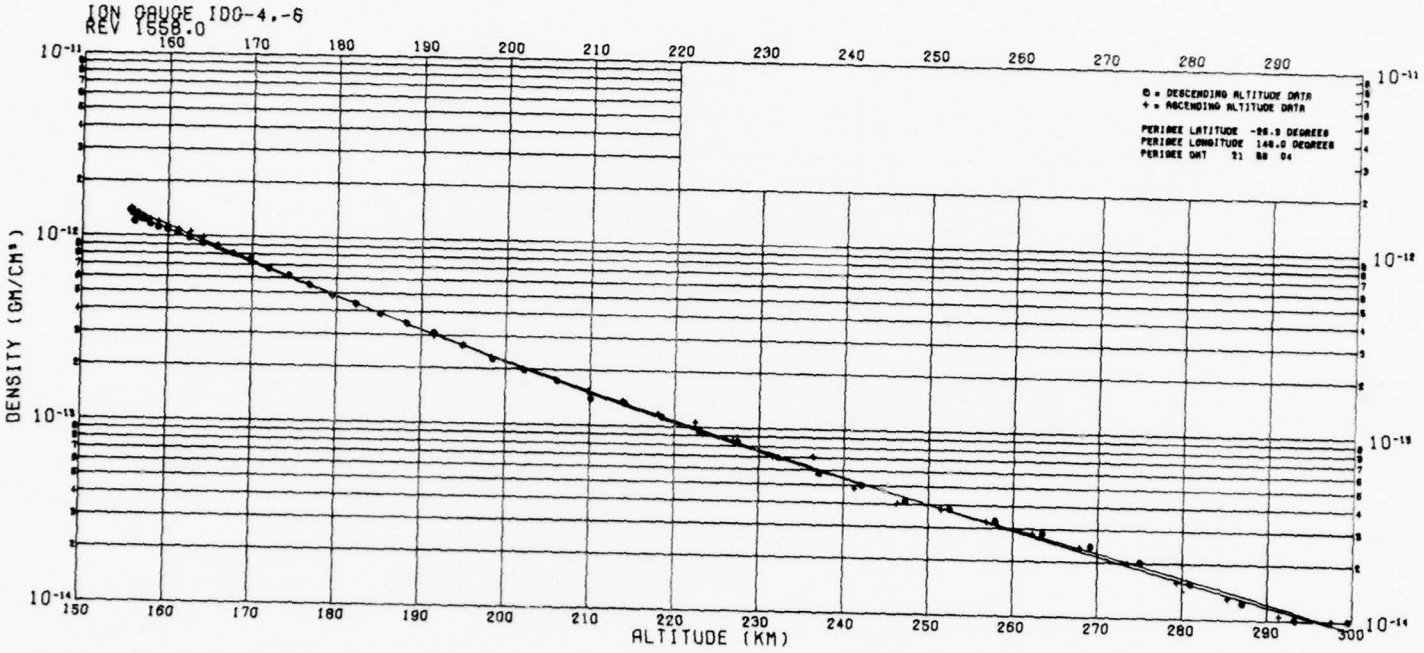
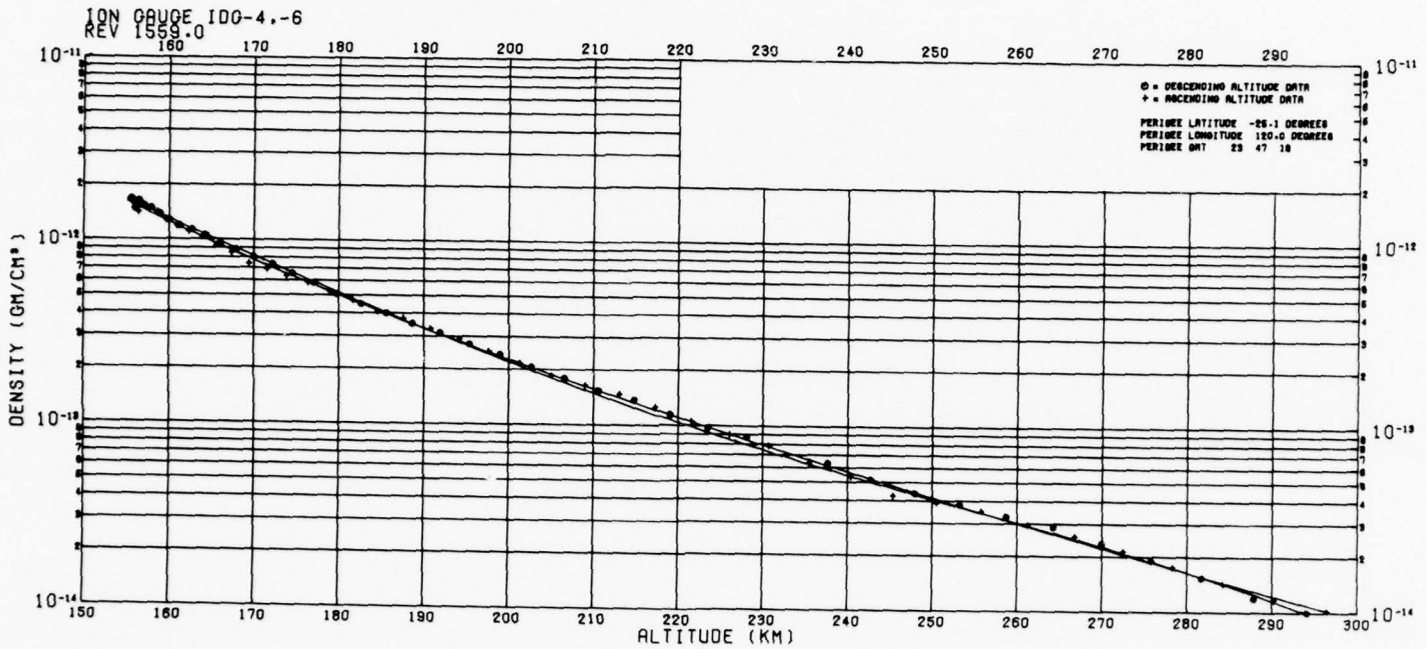
250
260
270
280
290
300

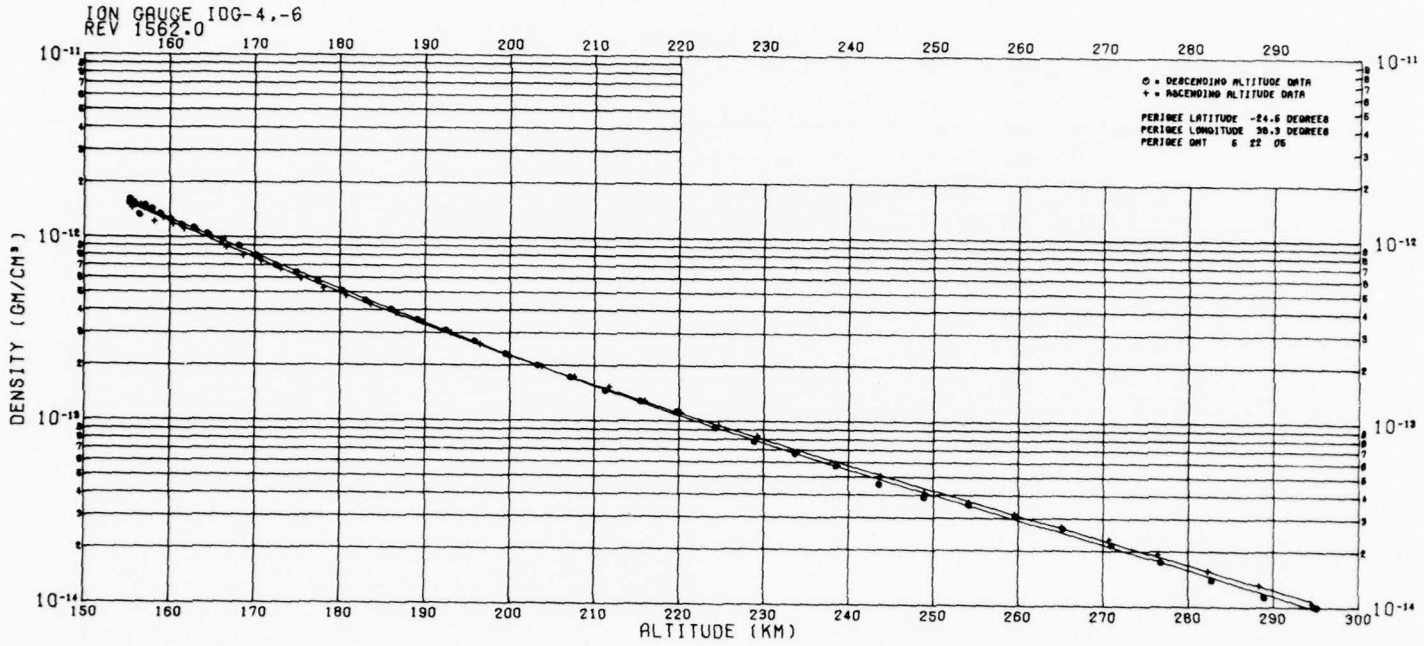

ION GAUGE IOG-4,-6
REV 1535.0
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -28.8 DEGREES
PERIGEE LONGITUDE 70.7 DEGREES
PERIGEE GMT 1 4 26
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

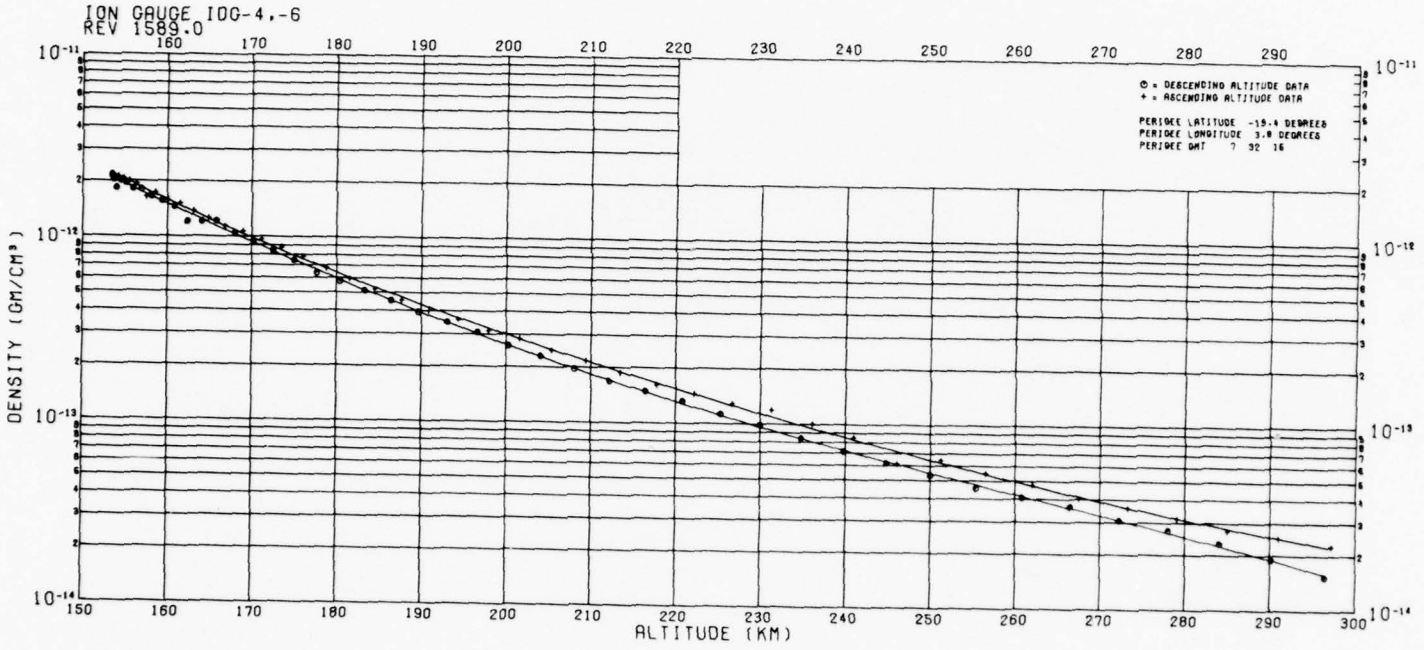

ION GAUGE IOG-4,-6
REV 1538.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -28.1 DEGREES
PERIGEE LONGITUDE 346.8 DEGREES
PERIGEE GMT 8 40 01
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

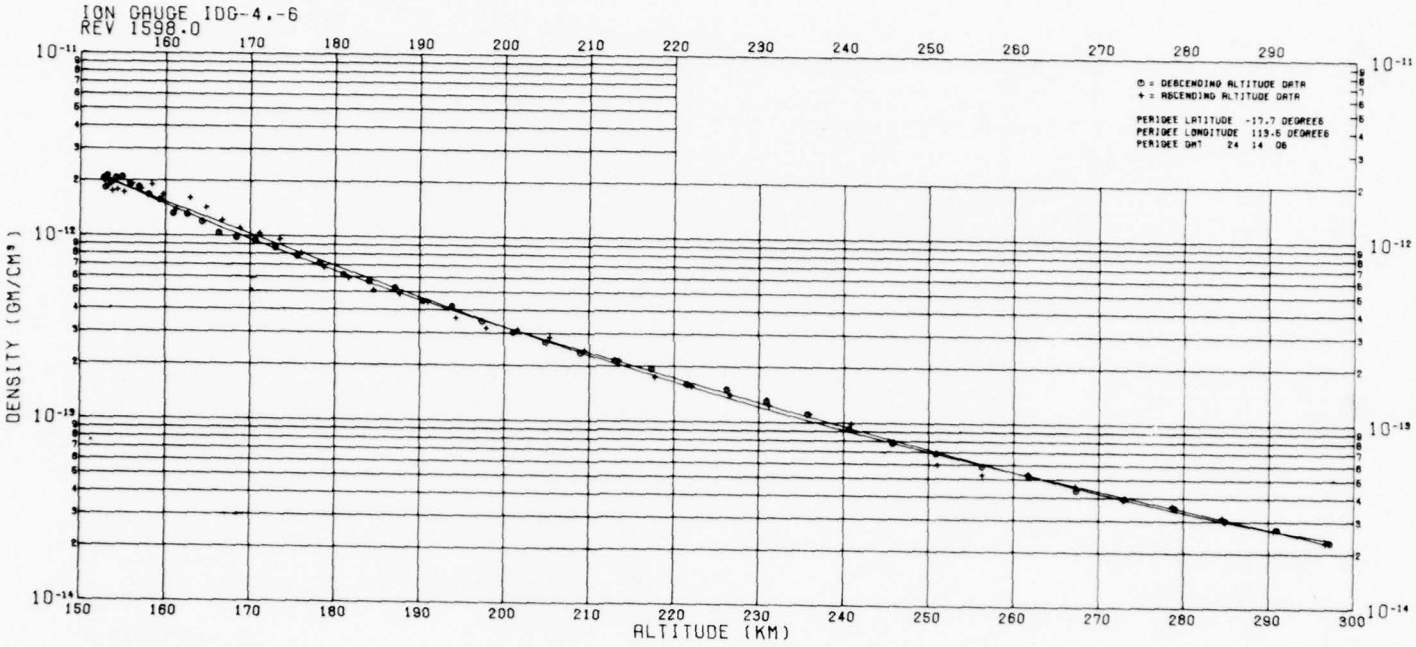

ION GAUGE IDG-4,-6
REV 1550.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -28.8 DEGREES
PERIGEE LONGITUDE 11.4 DEGREES
PERIGEE DAY 7 2 19
DENSITY (GM/CM³)
ALTITUDE (KM)

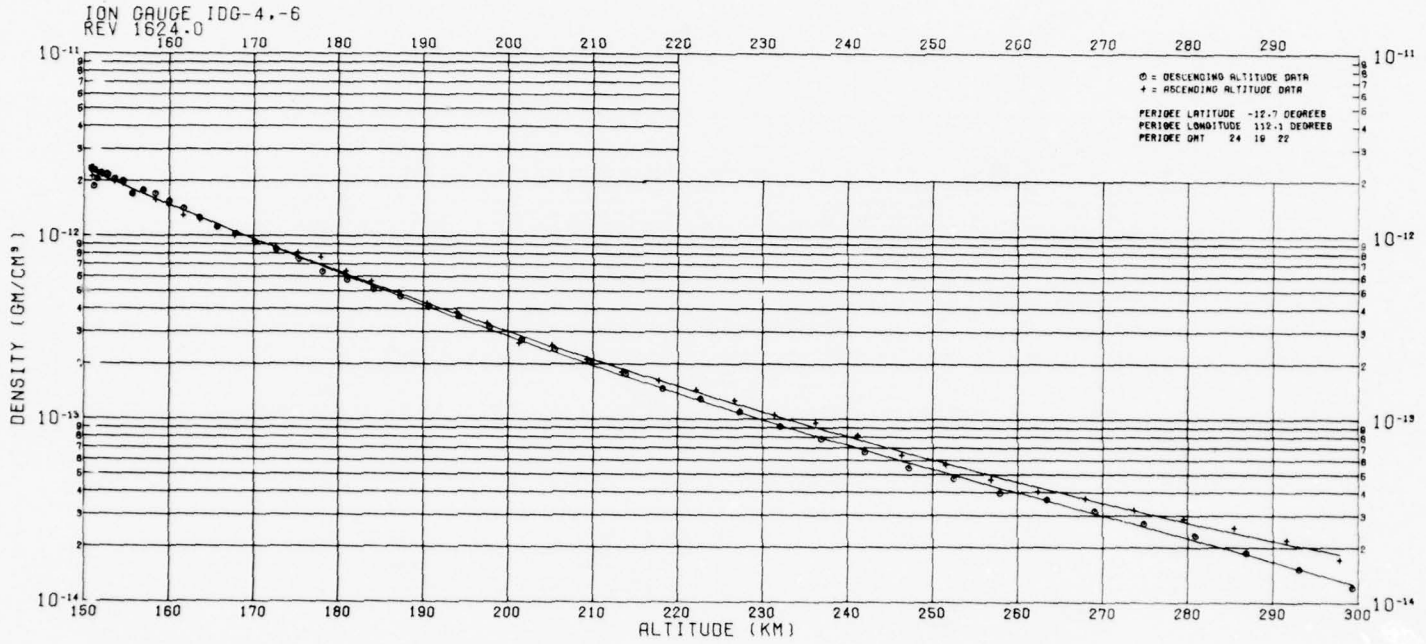

ION GAUGE IDG-4,-6
REV 1558.0
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
o = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -26.9 DEGREES
PERIGEE LONGITUDE 148.0 DEGREES
PERIGEE DAY 21 88 04

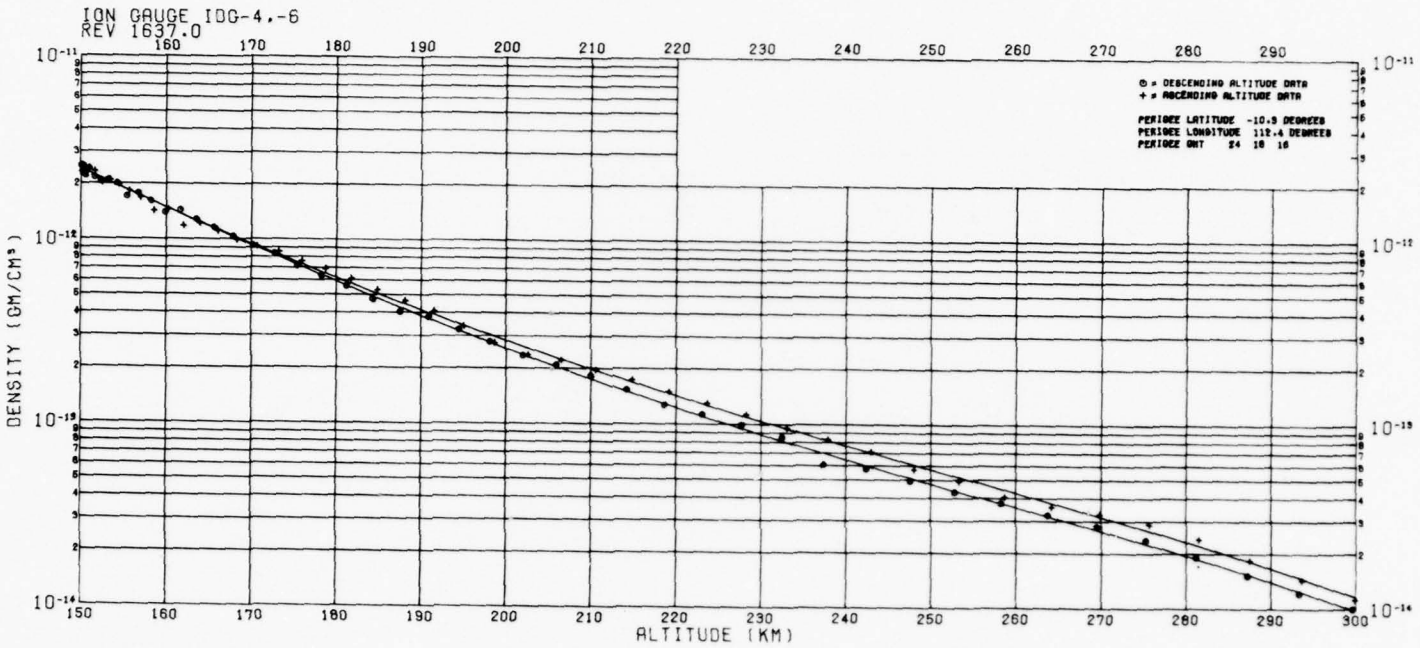

ION GAUGE IDO-4,-6
REV 1559.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -26.1 DEGREES
PERIGEE LONGITUDE 120.0 DEGREES
PERIGEE GMT 23 47 18

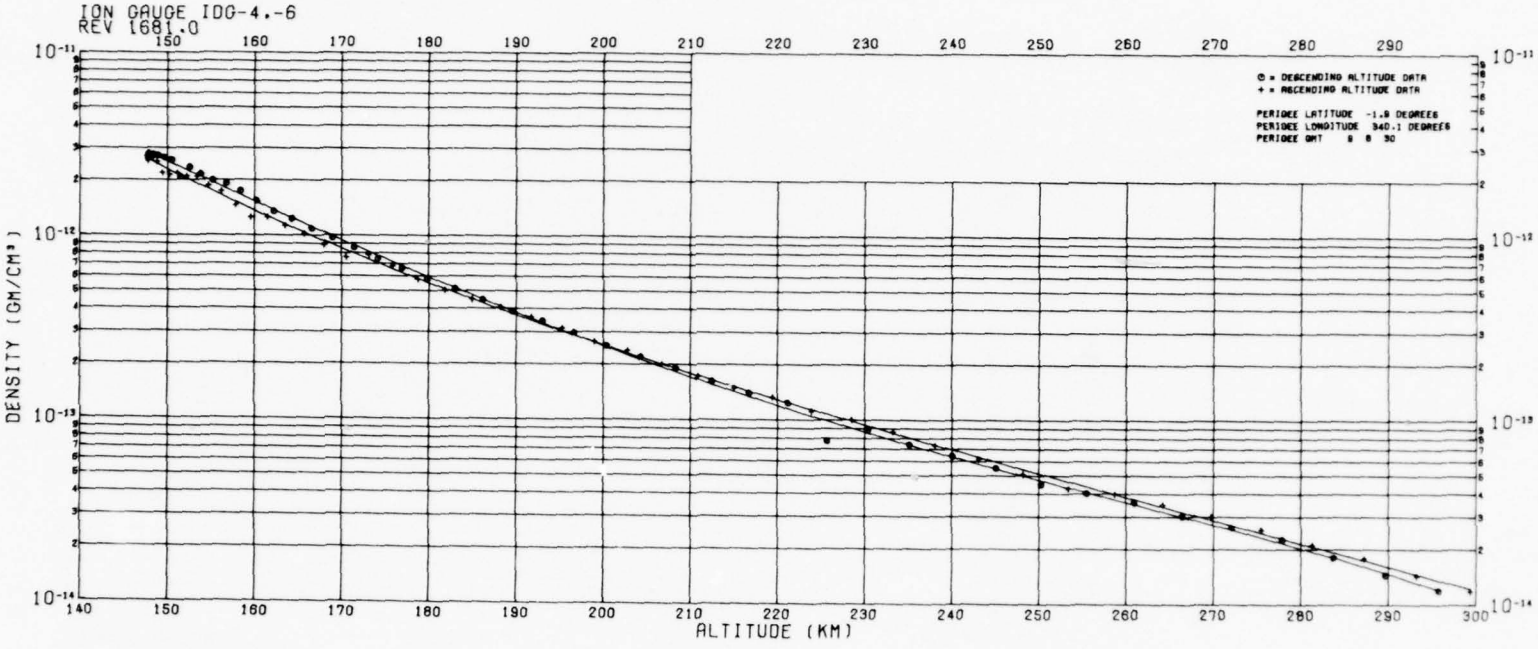

ION GAUGE IOG-4,-6
REV 1562.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -24.6 DEGREES
PERIGEE LONGITUDE 30.3 DEGREES
PERIGEE GMT 6 22 06
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

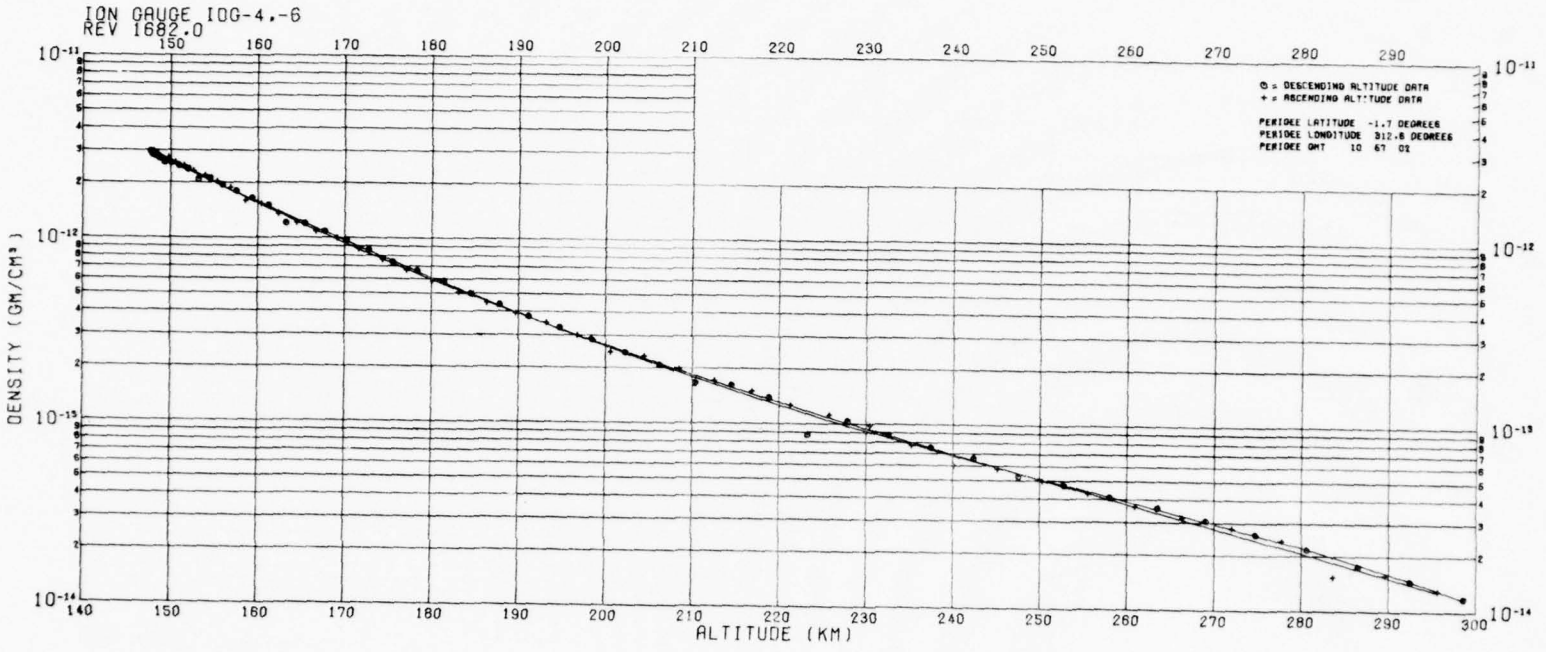

ION GAUGE IOG-4,-6
REV 1589.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -19.4 DEGREES
PERIGEE LONGITUDE 3.8 DEGREES
PERIGEE GMT 7 32 16

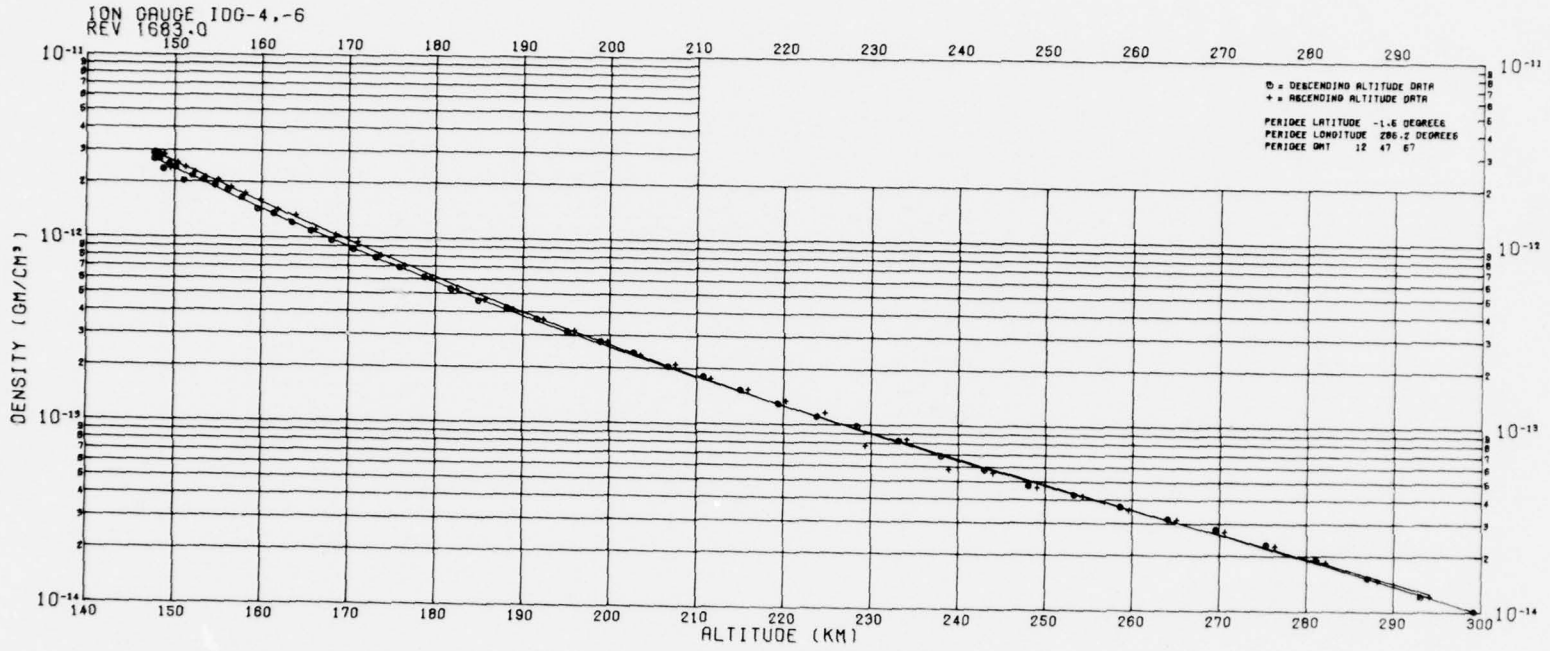

ION GAUGE IDG-4,-6
REV 1598.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -17.7 DEGREES
PERIGEE LONGITUDE 119.6 DEGREES
PERIGEE GMT 24 14 06
DENSITY (GM/CM³)
ALTITUDE (KM)

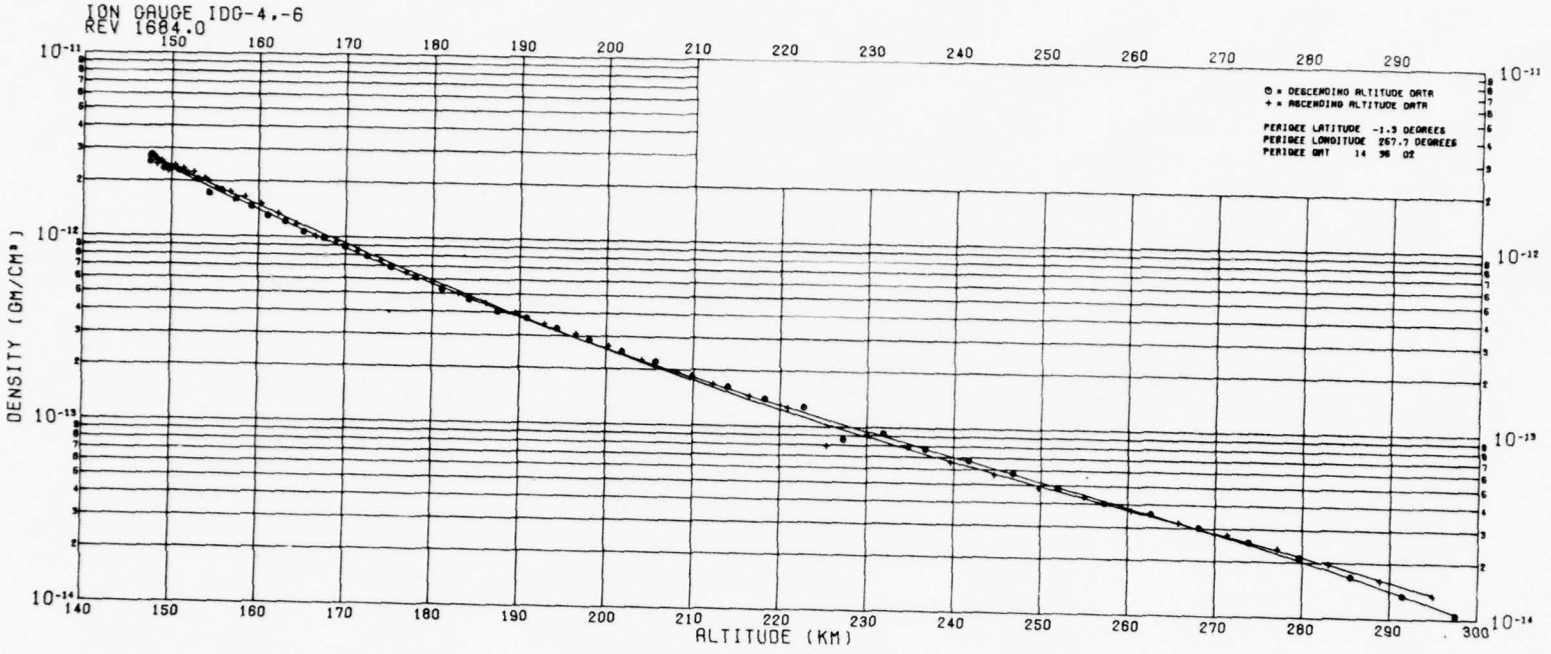

ION GAUGE IDG-4,-6
REV 1624.0
Ø = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -12.7 DEGREES
PERIGEE LONGITUDE 112.1 DEGREES
PERIGEE GMT 24 16 22
DENSITY (GM/CM³)
ALTITUDE (KM)

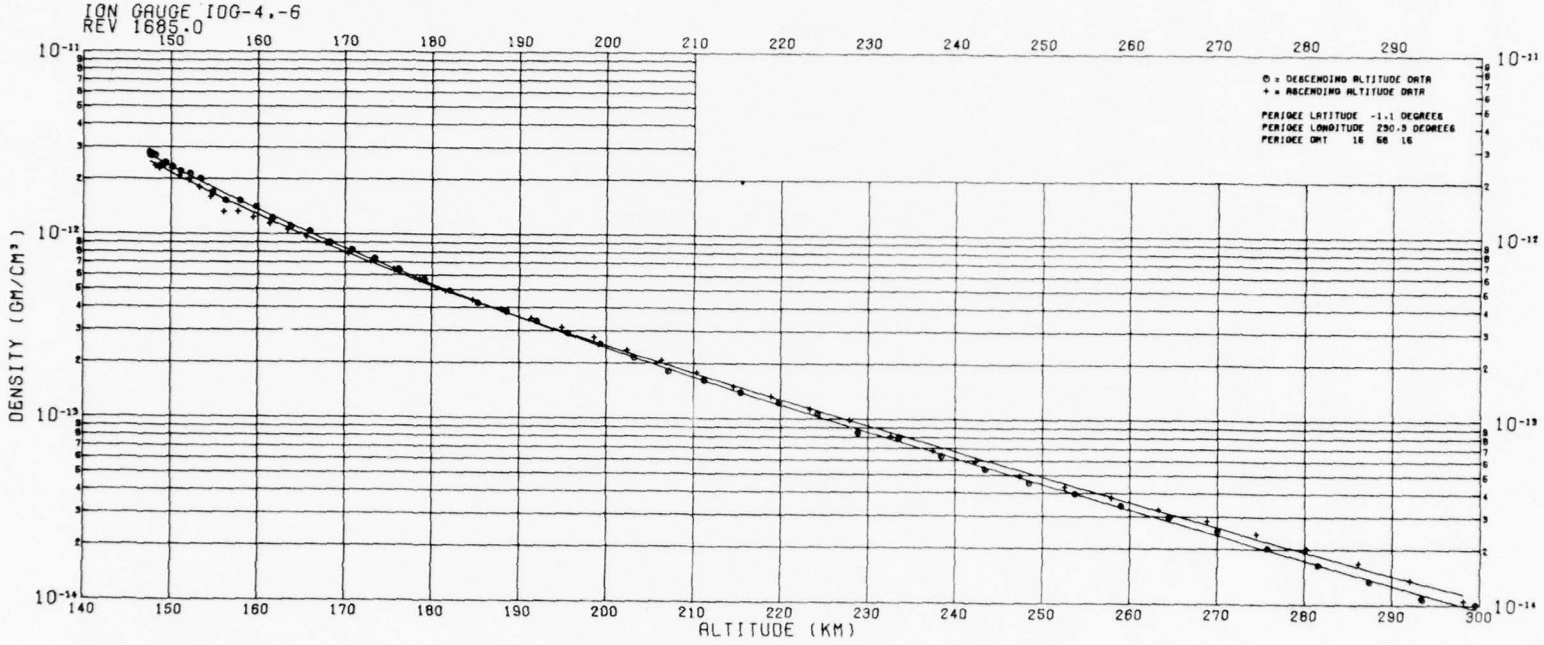

ION GAUGE IDG-4,-6
REV 1637.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -10.9 DEGREES
PERIGEE LONGITUDE 112.4 DEGREES
PERIGEE GMT 24 18 16
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

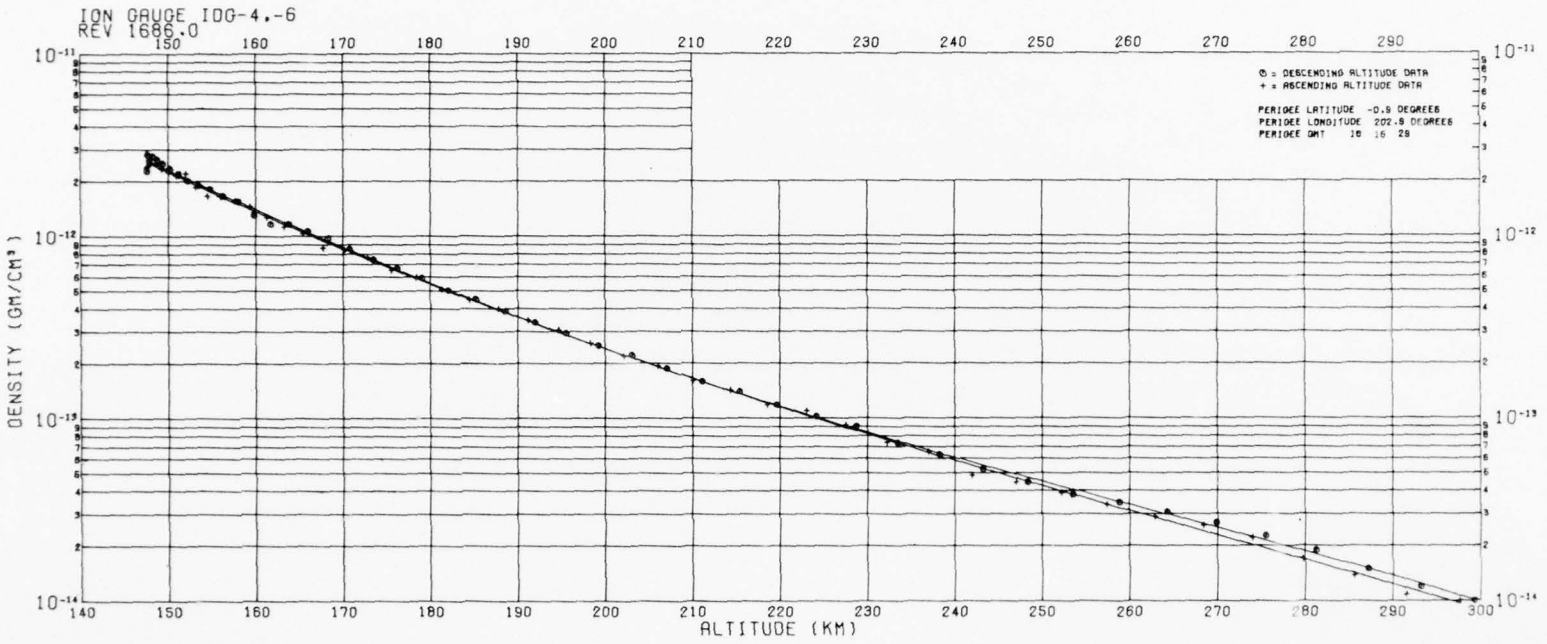

ION GAUGE IDG-4.-6
REV 1681.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -1.8 DEGREES
PERIGEE LONGITUDE 340.1 DEGREES
PERIGEE GMT 8 8 30
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
140
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

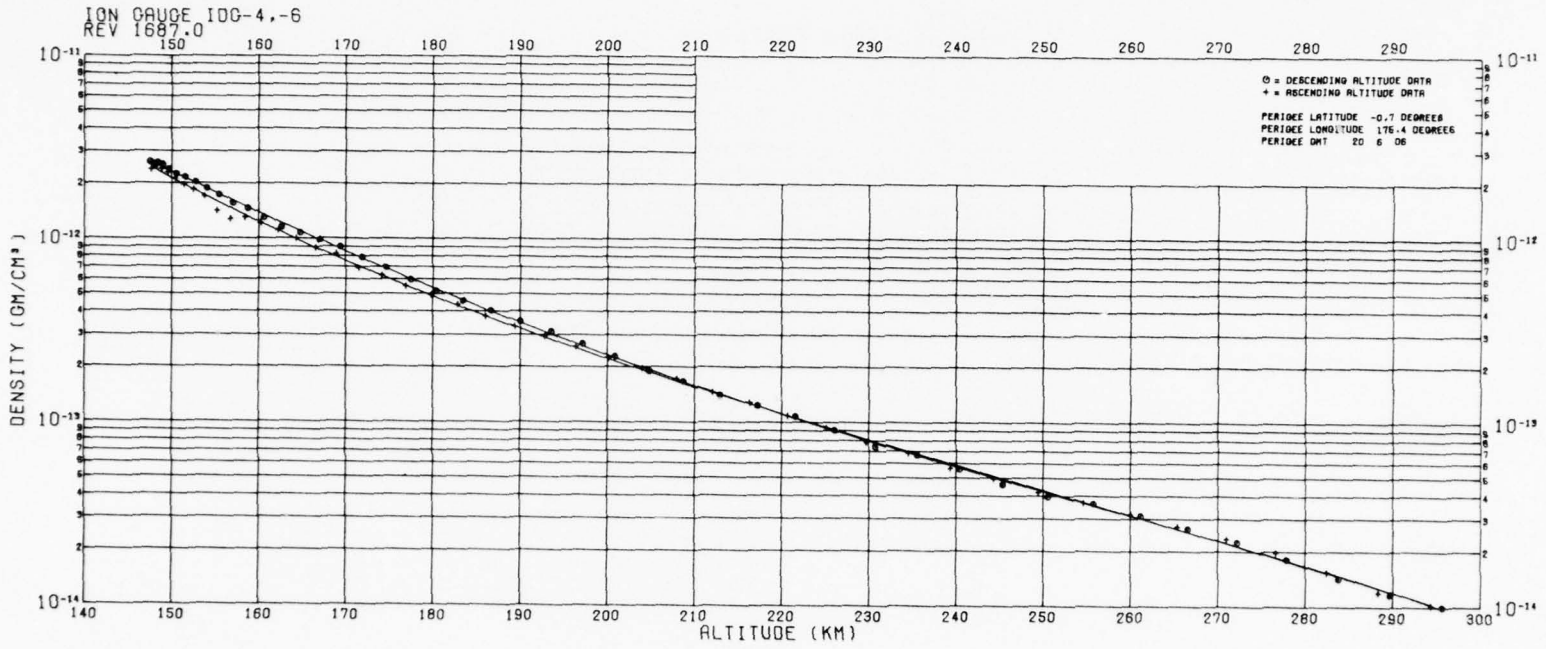

ION GAUGE IOG-4,-6
REV 1682.0
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -1.7 DEGREES
PERIGEE LONGITUDE 312.8 DEGREES
PERIGEE GMT 10 67 01
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
140
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300


ION GAUGE IDG-4,-6
REV 1683.0
DENSITY (GM/CM³)
ALTITUDE (KM)
D = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -1.6 DEGREES
PERIGEE LONGITUDE 286.2 DEGREES
PERIGEE GMT 12 47 67

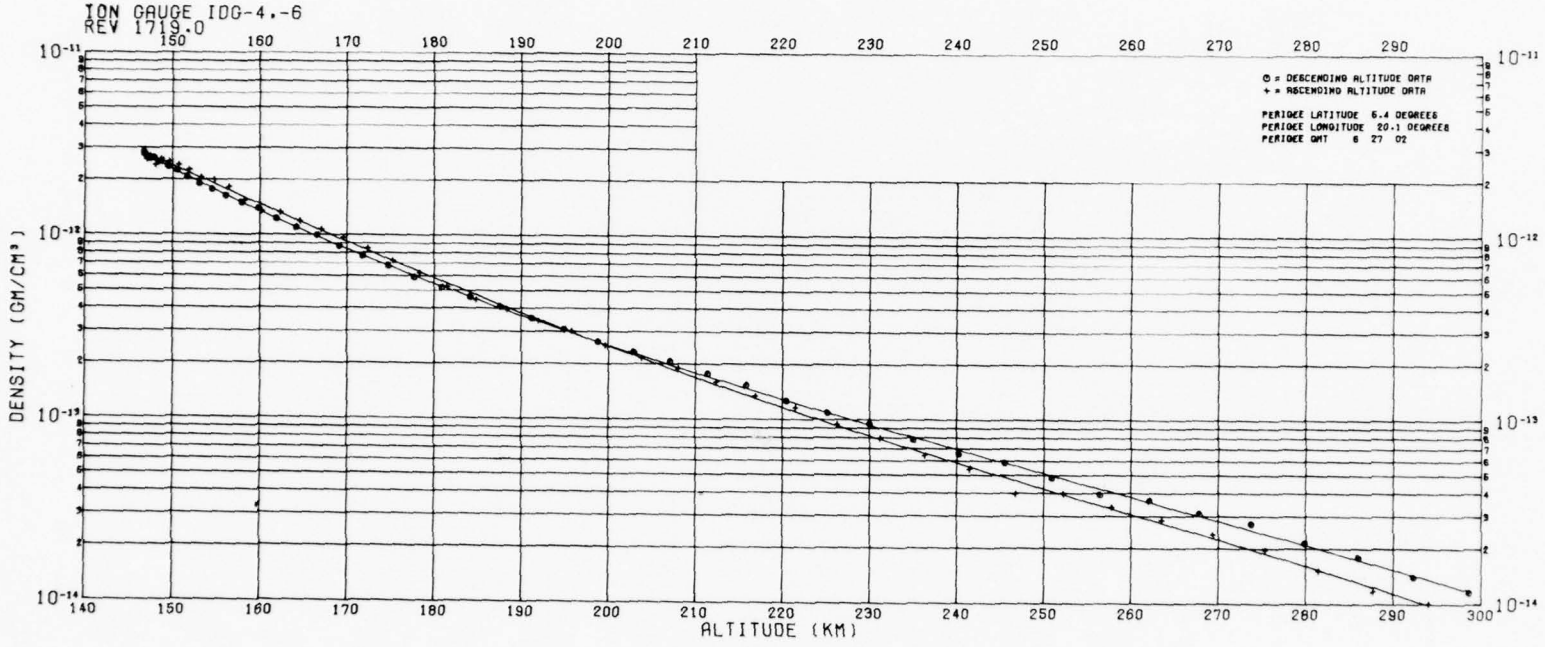

ION GAUGE IDG-4,-6
REV 1684.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -1.3 DEGREES
PERIGEE LONGITUDE 267.7 DEGREES
PERIGEE GMT 14 36 02
DENSITY (GM/CM³)
ALTITUDE (KM)

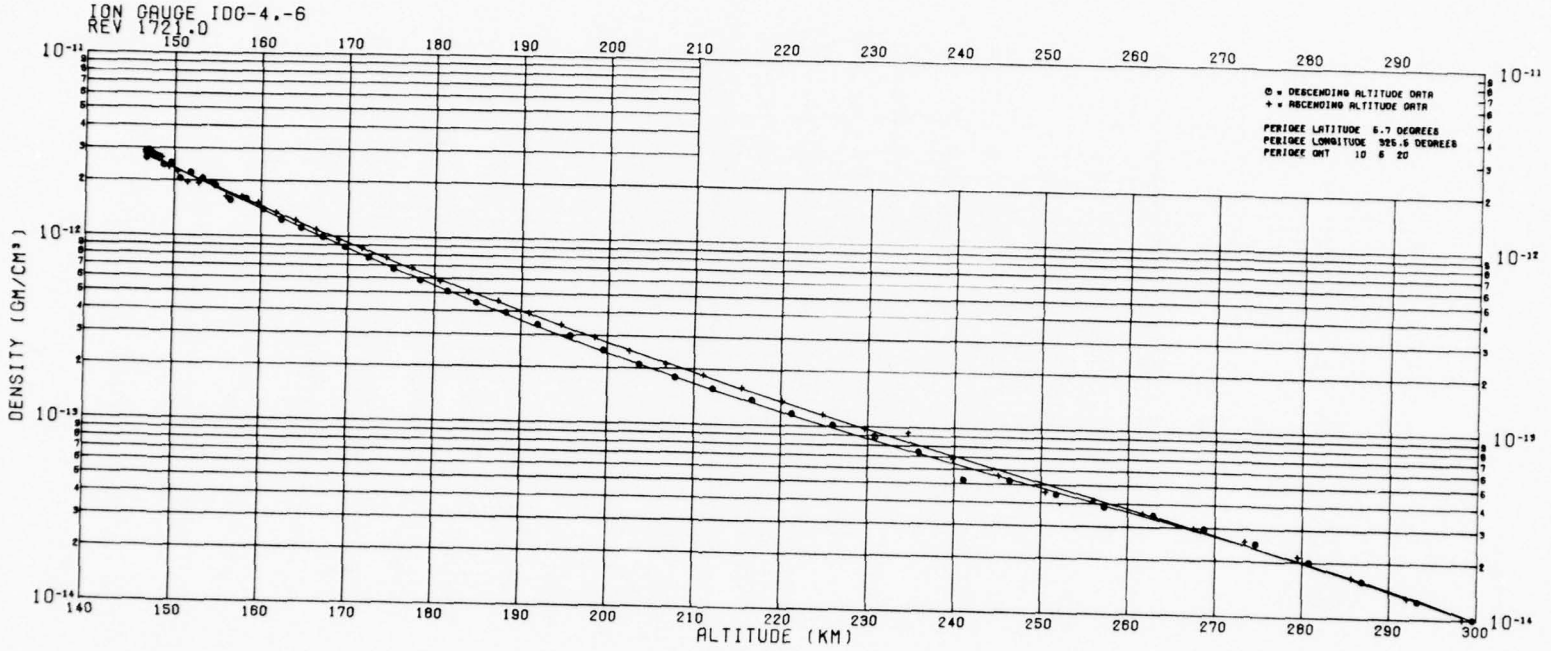

ION GAUGE IOG-4,-6
REV 1685.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -1.1 DEGREES
PERIGEE LONGITUDE 230.9 DEGREES
PERIGEE GMT 16 58 16

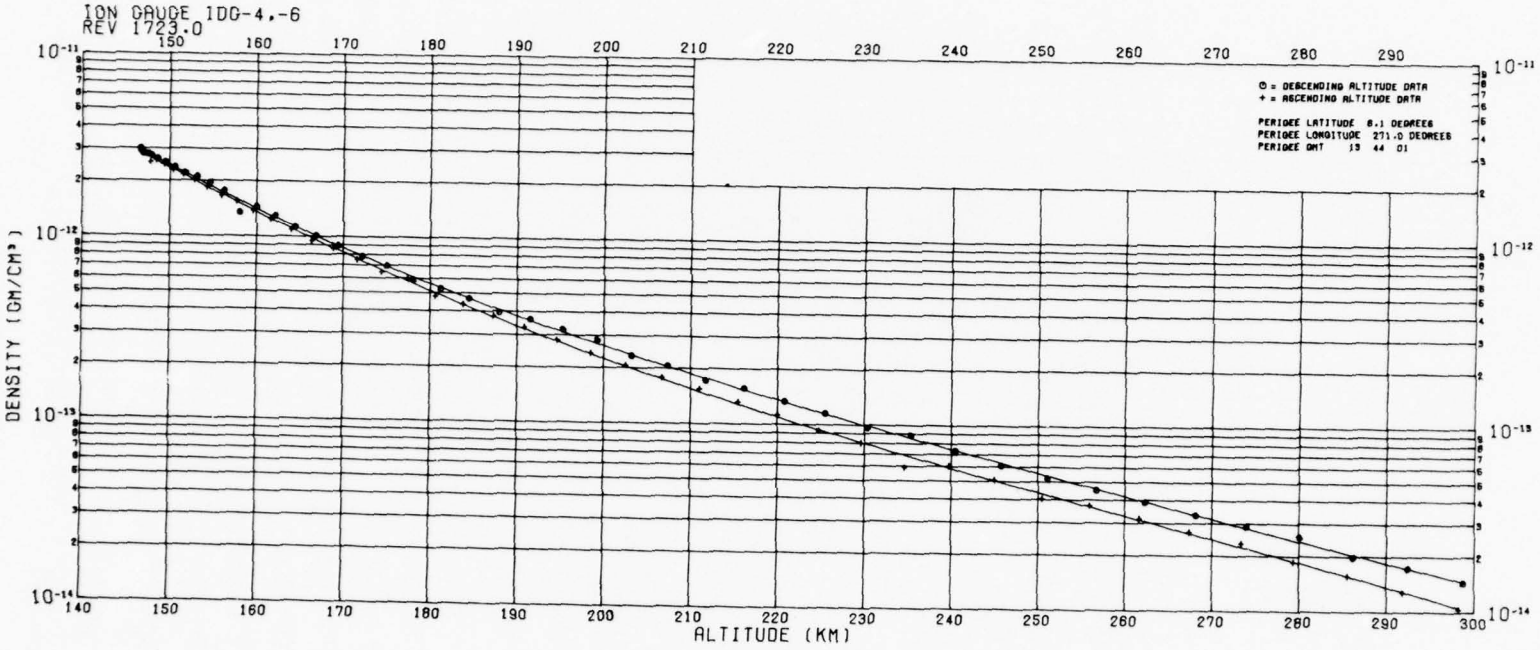

ION GAUGE IDG-4,-6
REV 1686.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -0.9 DEGREES
PERIGEE LONGITUDE 202.9 DEGREES
PERIGEE GMT 15 16 28
DENSITY (GM/CM³)
ALTITUDE (KM)

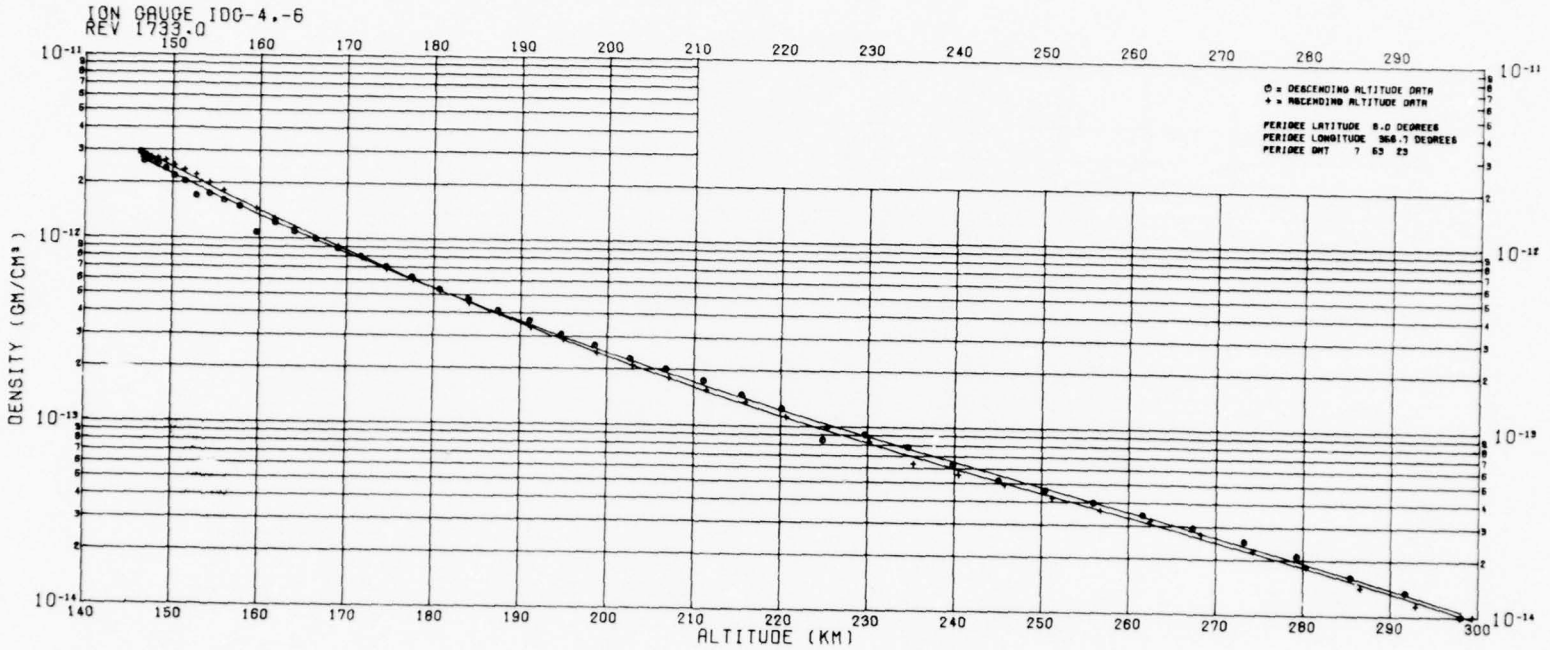

ION GAUGE IDG-4,-6
REV 1687.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -0.7 DEGREES
PERIGEE LONGITUDE 176.4 DEGREES
PERIGEE GMT 20 6 08
DENSITY (GM/CM³)
ALTITUDE (KM)

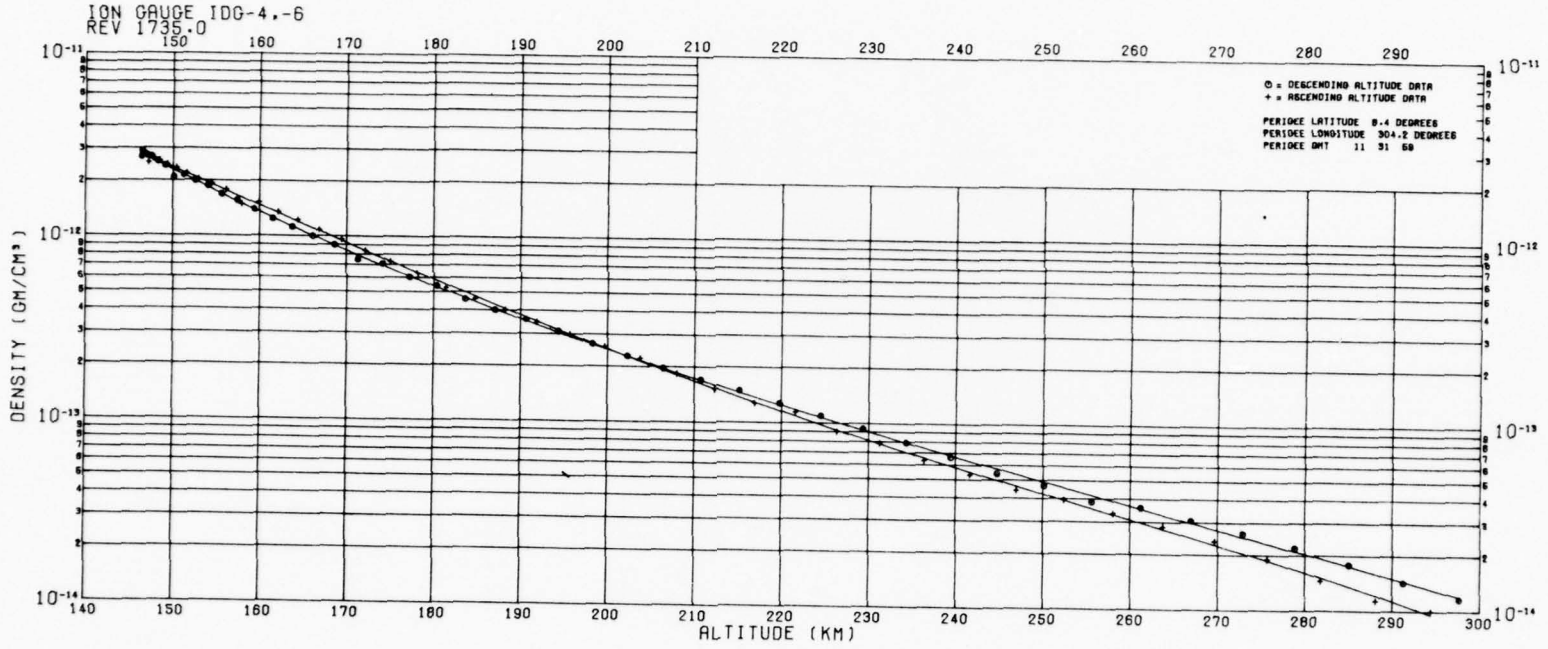
ION GAUGE IDG-4,-6
REV 1688.0
O = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -0.6 DEGREES
PERIGEE LONGITUDE 148.0 DEGREES
PERIGEE GMT 21 46 35
DENSITY (GM/CM³)
ALTITUDE (KM)

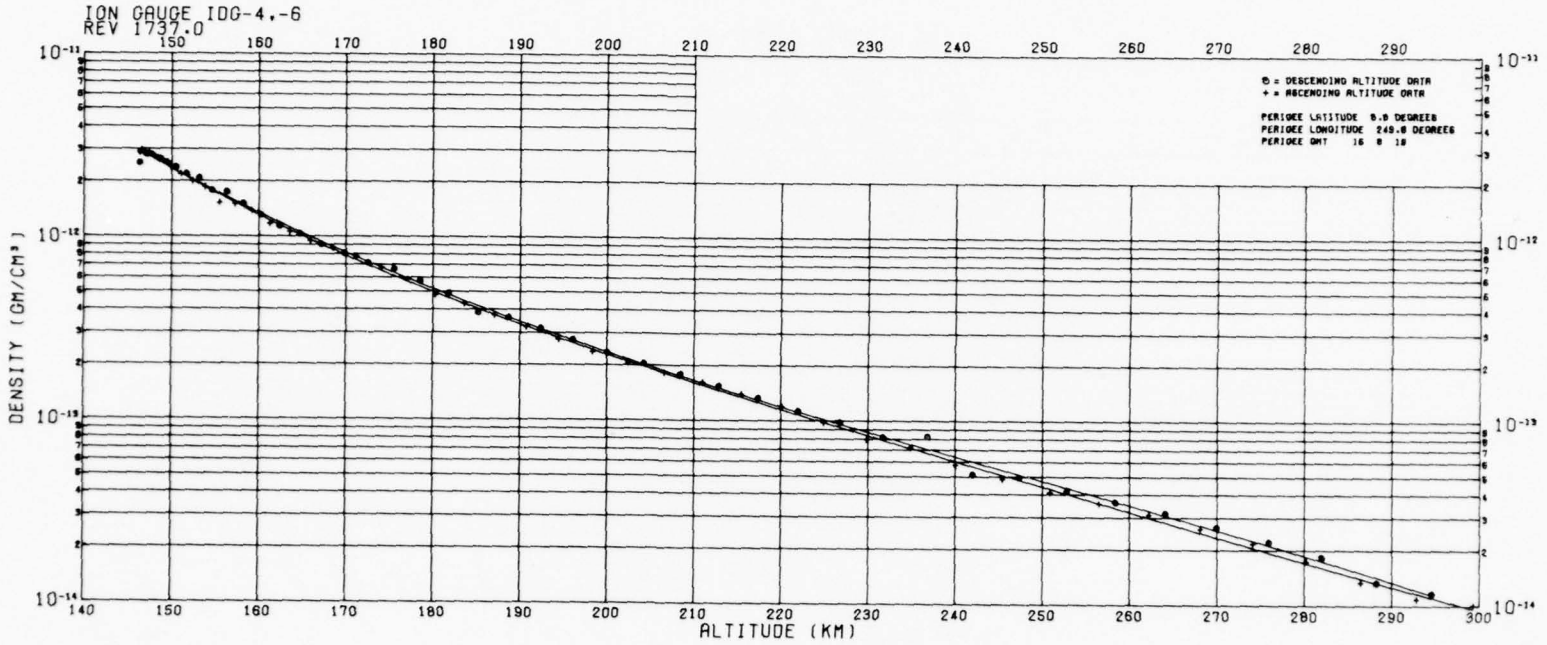

ION GAUGE IDG-4,-6
REV 1719.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 6.4 DEGREES
PERIGEE LONGITUDE 20.1 DEGREES
PERIGEE GMT 6 27 02
DENSITY (GM/CM³)
ALTITUDE (KM)

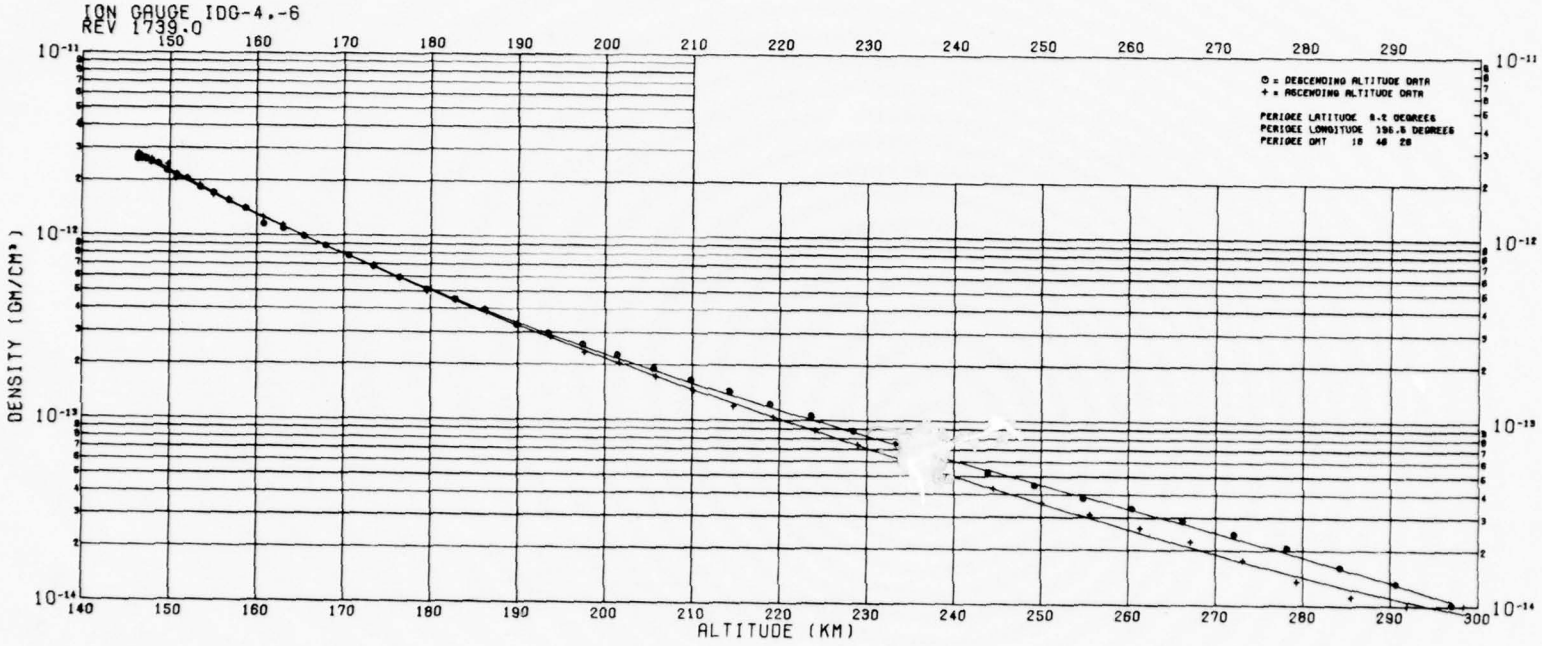

ION GAUGE IDG-4,-6
REV 1721.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 6.7 DEGREES
PERIGEE LONGITUDE 325.5 DEGREES
PERIGEE GMT 10 6 20

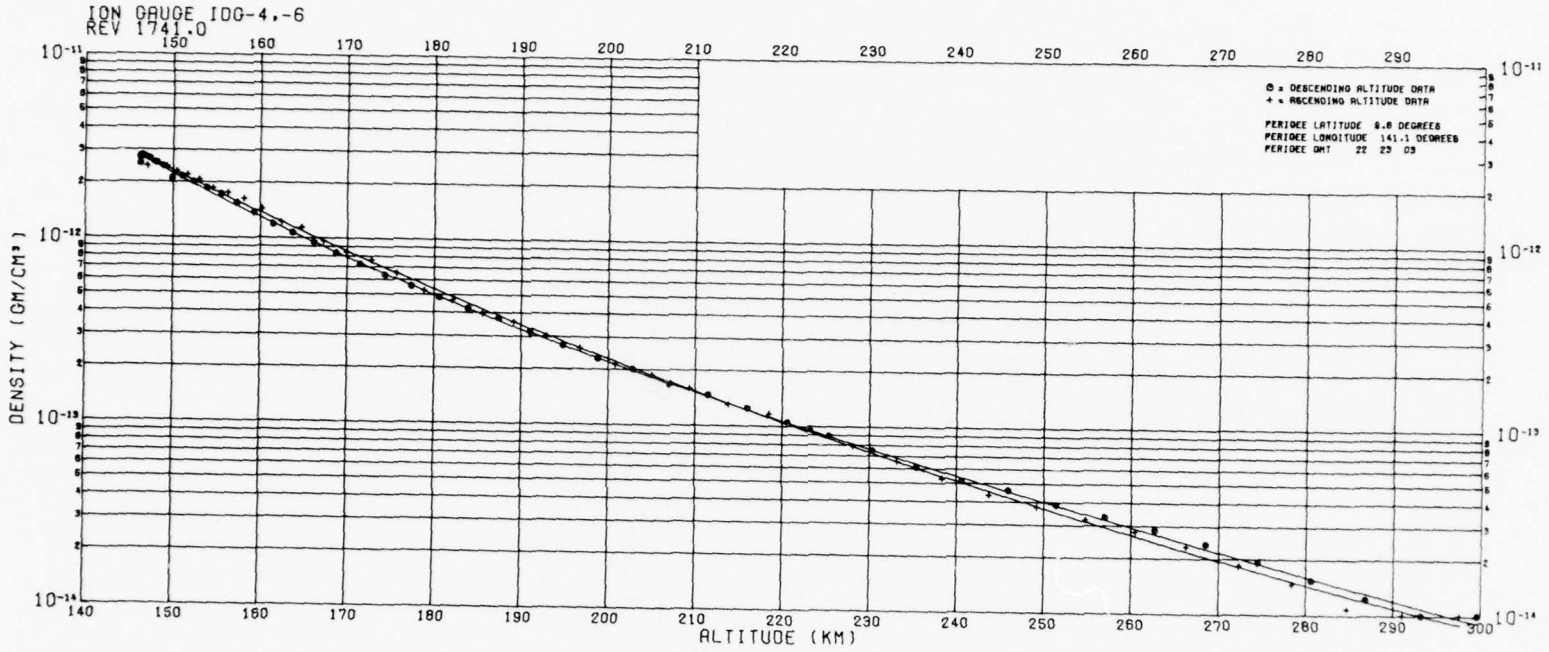

ION GAUGE IDG-4,-6
REV 1723.0
DENSITY (GM/CM³)
ALTITUDE (KM)
○ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 8.1 DEGREES
PERIGEE LONGITUDE 271.0 DEGREES
PERIGEE GMT 13 44 01

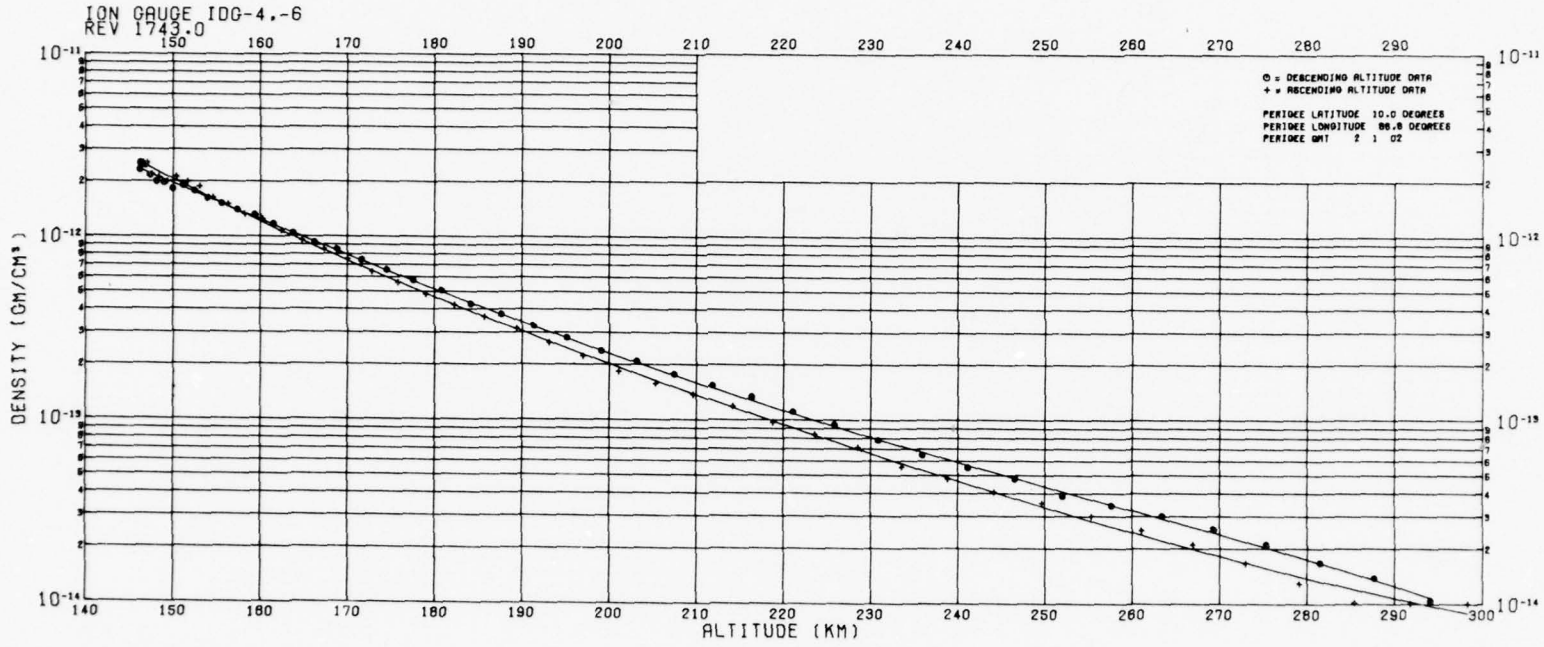

ION GAUGE IDG-4,-6
REV 1733.0
DENSITY (GM/CM³)
ALTITUDE (KM)
○ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 8.0 DEGREES
PERIGEE LONGITUDE 368.7 DEGREES
PERIGEE GMT 7 63 23

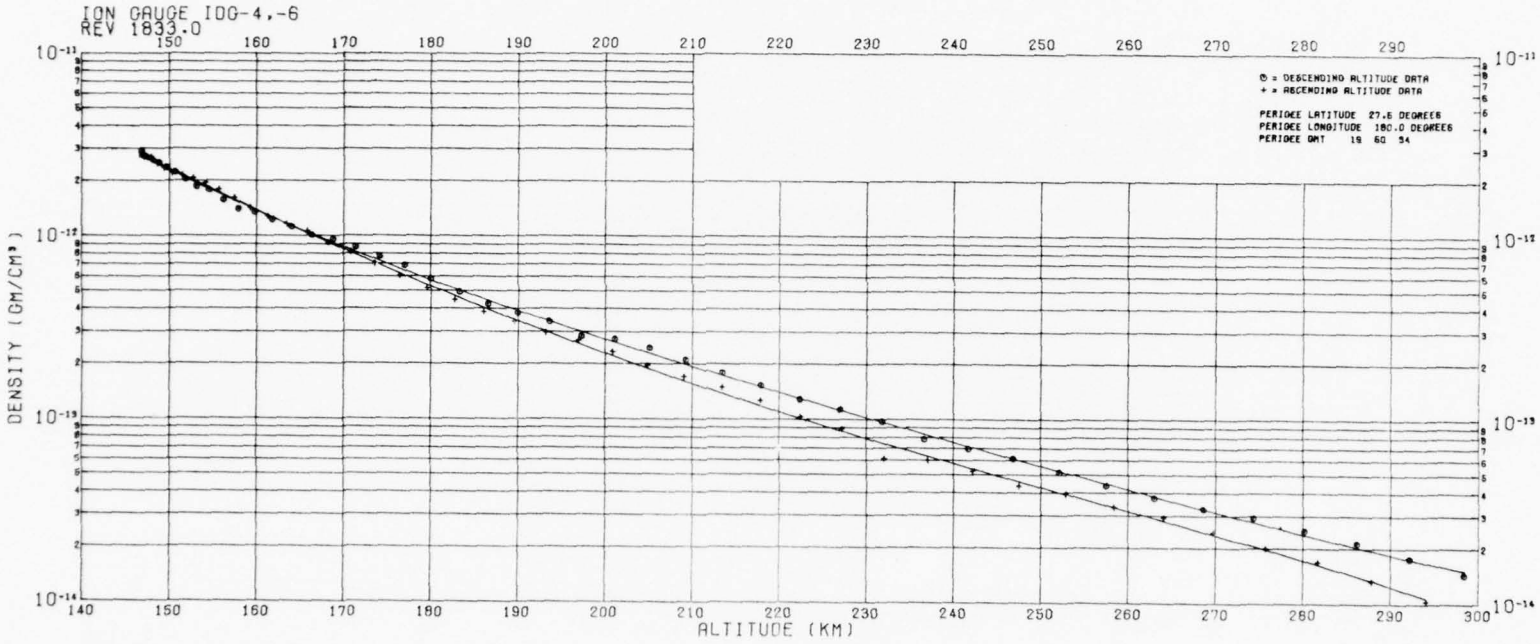

ION GAUGE IDG-4,-6
REV 1735.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 8.4 DEGREES
PERIGEE LONGITUDE 304.2 DEGREES
PERIGEE GMT 11 31 59
DENSITY (GM/CM³)
ALTITUDE (KM)

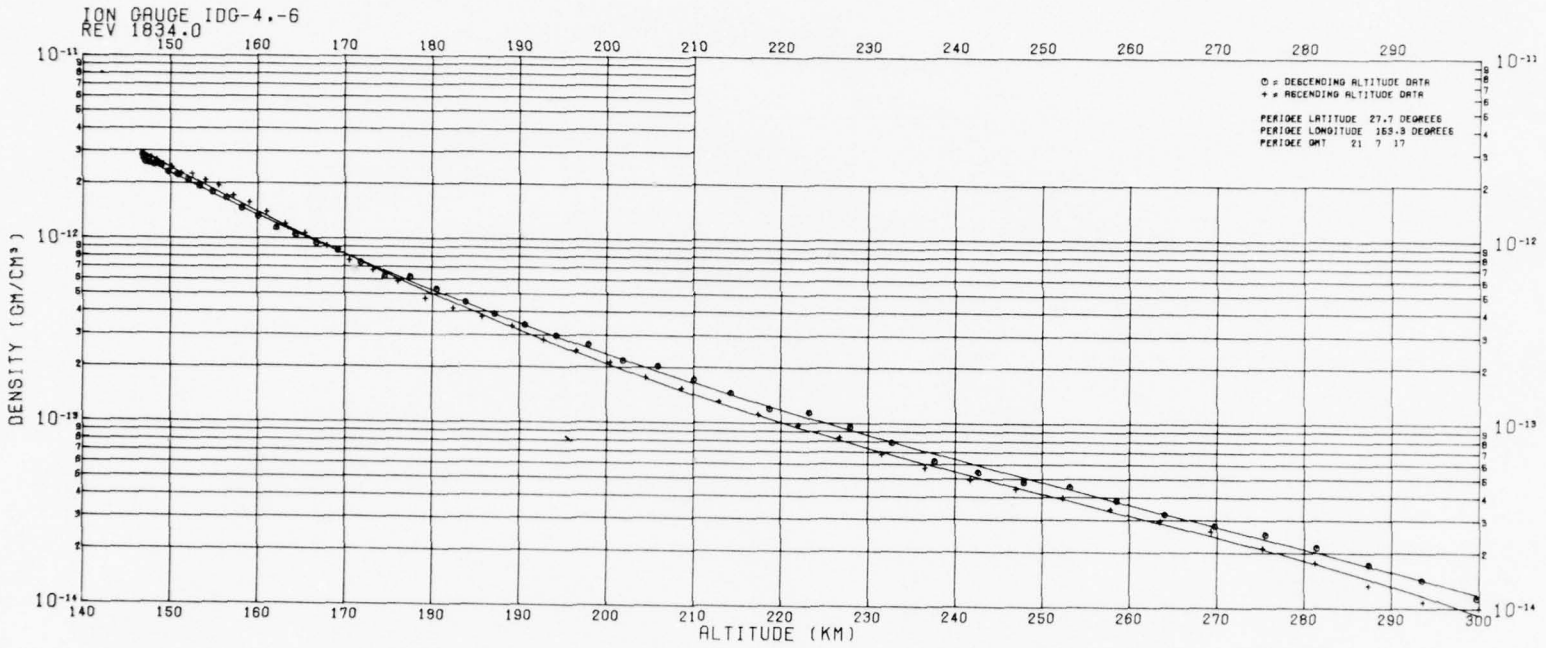

ION GAUGE IDG-4,-6
REV 1737.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊕ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 0.0 DEGREES
PERIGEE LONGITUDE 249.0 DEGREES
PERIGEE GMT 16 0 18

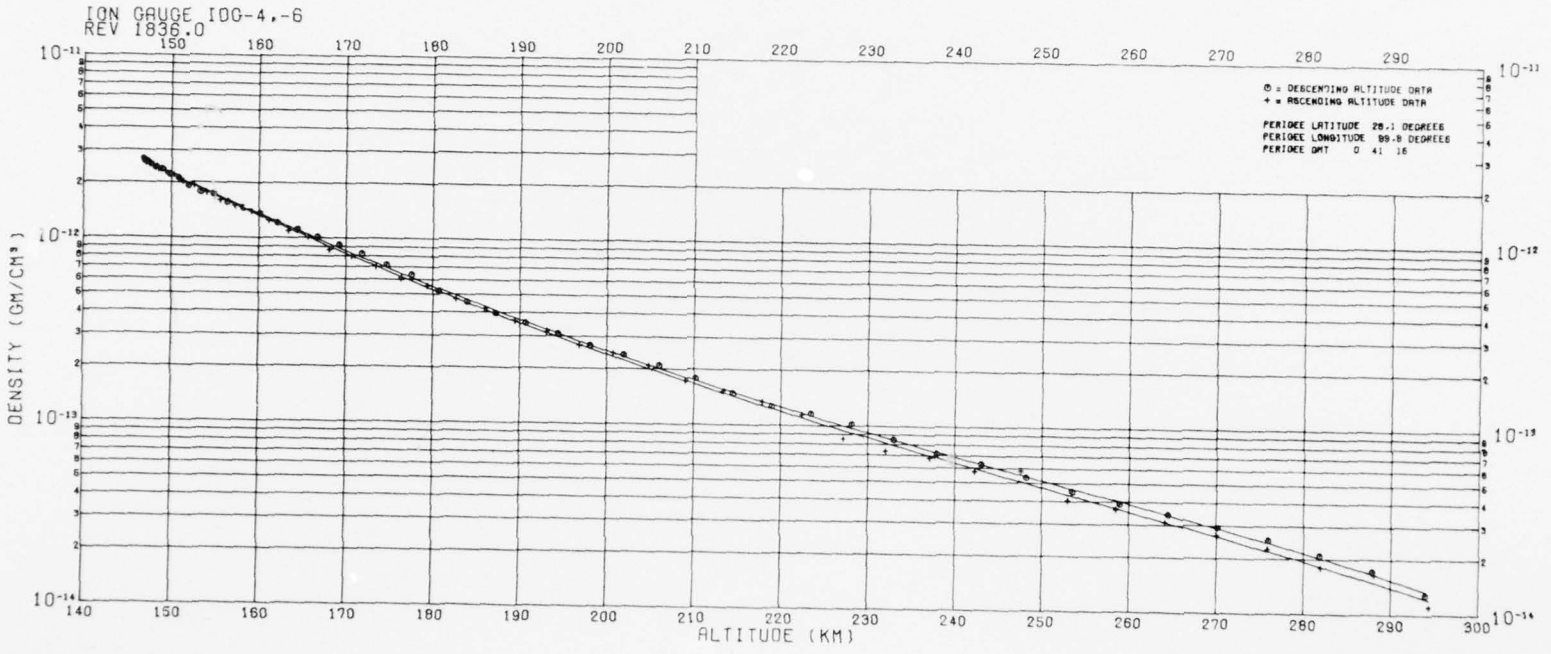

ION GAUGE IDG-4,-6
REV 1739.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 8.2 DEGREES
PERIGEE LONGITUDE 196.5 DEGREES
PERIGEE GMT 18 46 28

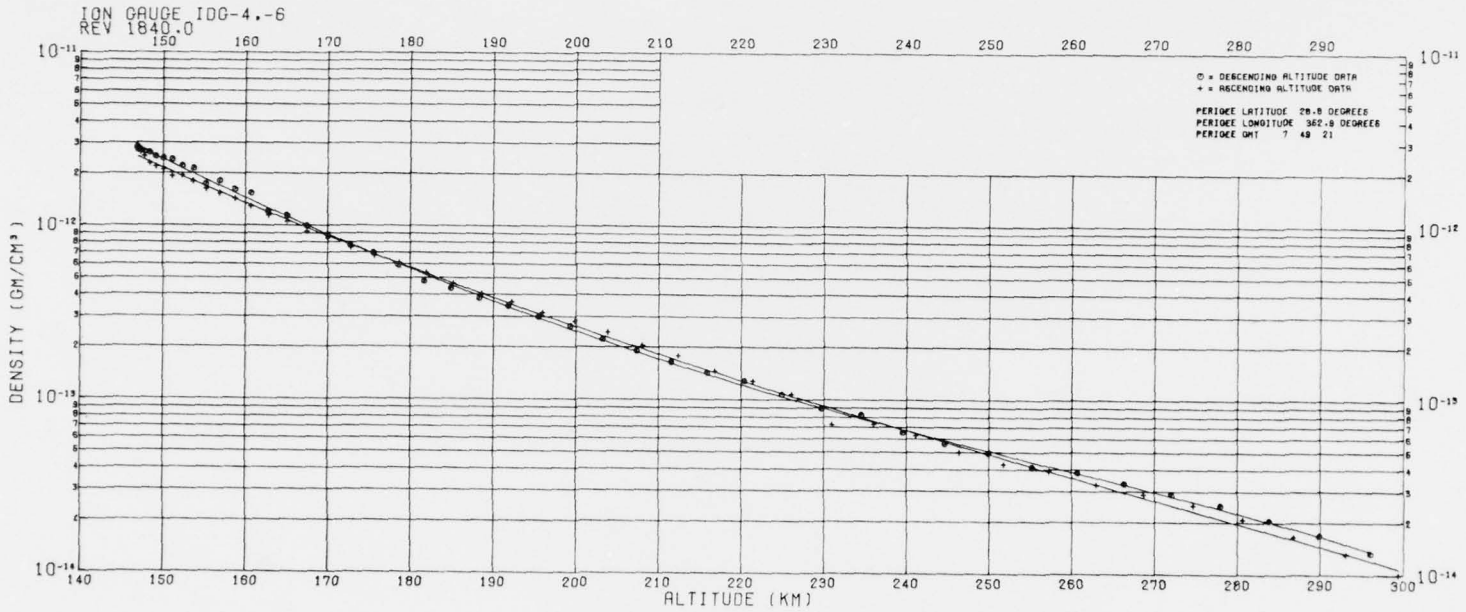

ION GAUGE IDG-4,-6
REV 1741.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 8.8 DEGREES
PERIGEE LONGITUDE 141.1 DEGREES
PERIGEE GMT 22 23 09

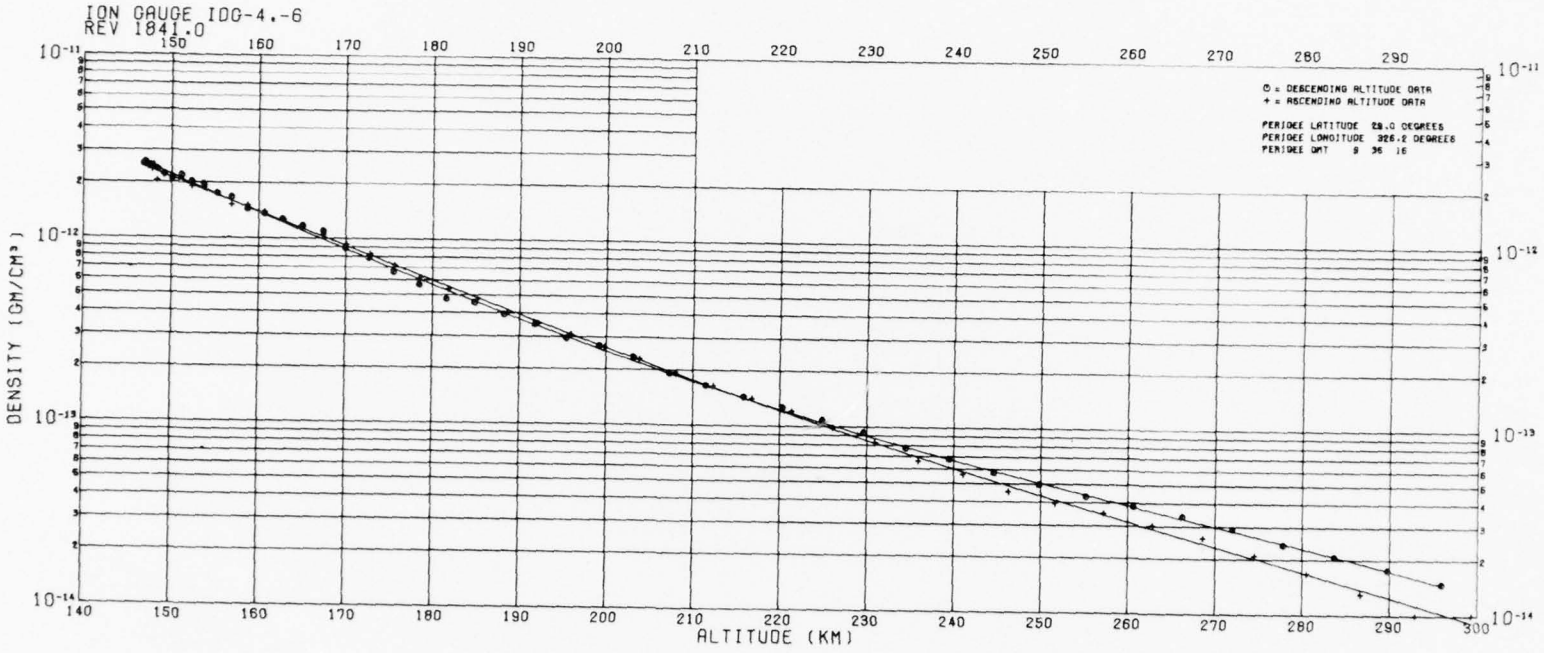

ION GAUGE IDG-4,-6
REV 1743.0
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 10.0 DEGREES
PERIGEE LONGITUDE 88.8 DEGREES
PERIGEE GMT 2 1 02
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
140
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

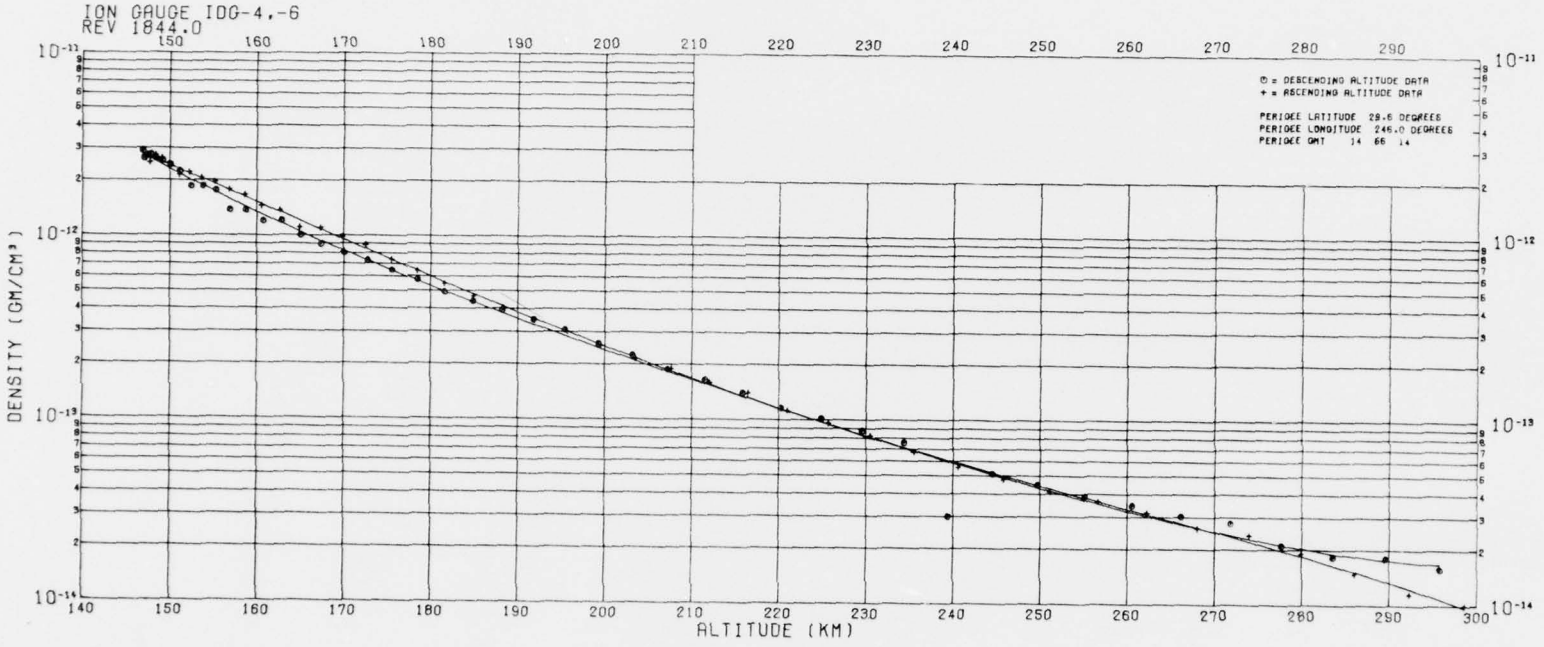

ION GAUGE IDG-4,-6
REV 1833.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 27.6 DEGREES
PERIGEE LONGITUDE 180.0 DEGREES
PERIGEE GMT 19 60 54

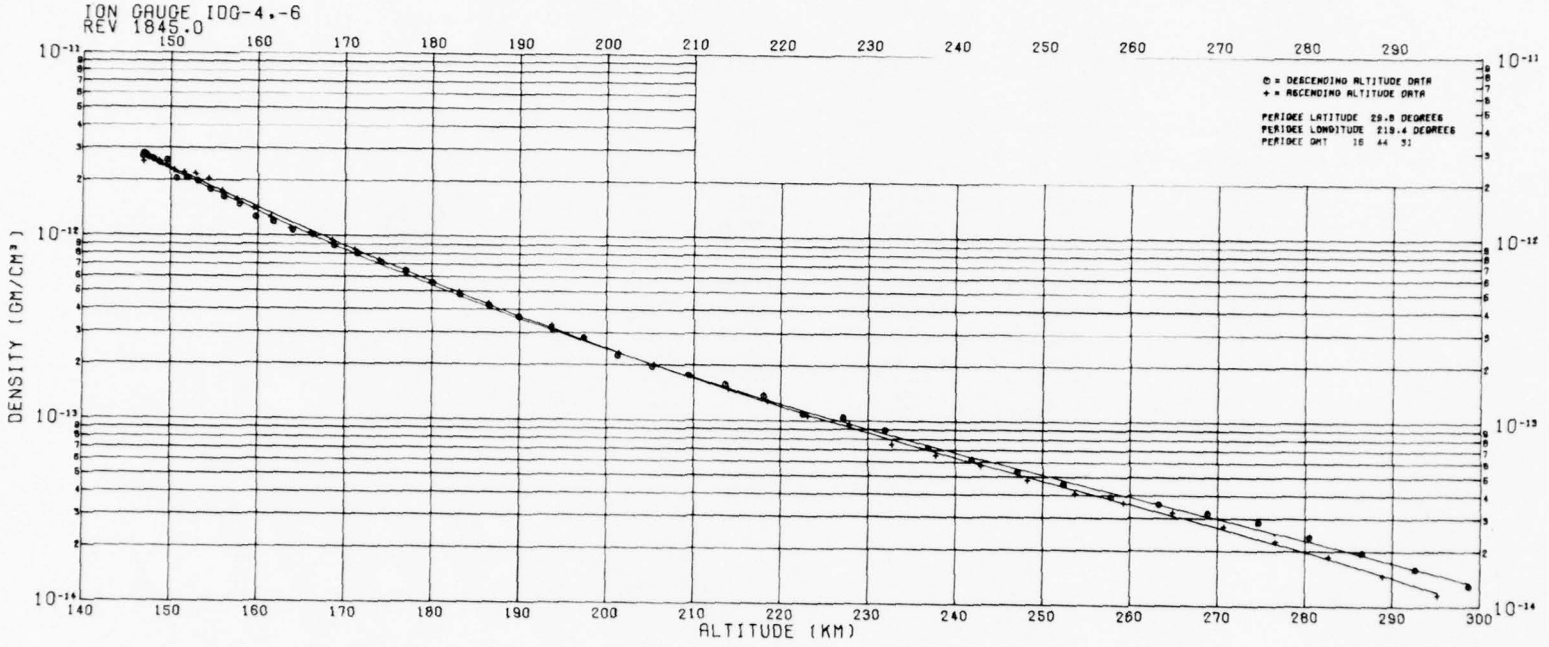

ION GAUGE IDG-4,-6
REV 1834.0
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 27.7 DEGREES
PERIGEE LONGITUDE 163.8 DEGREES
PERIGEE GMT 21 7 17
DENSITY (GM/CM³)
ALTITUDE (KM)

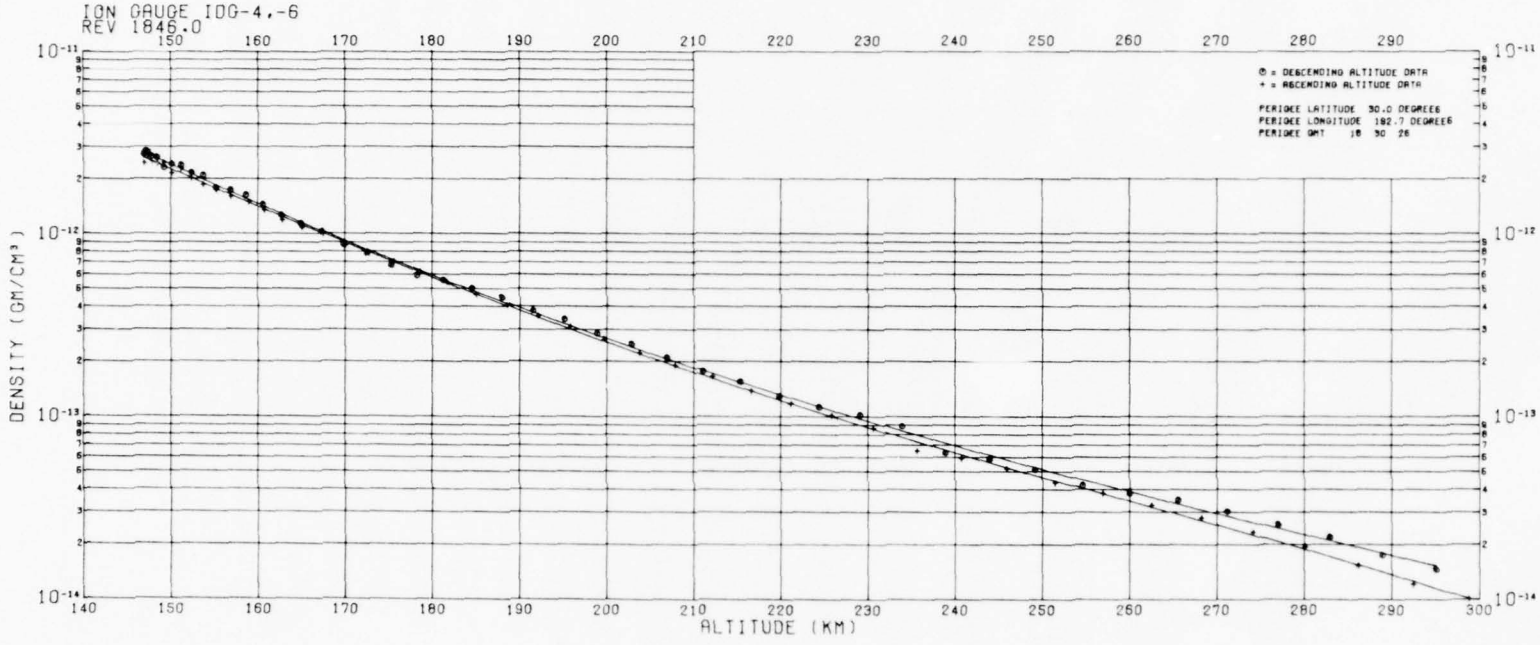

ION GAUGE IOG-4,-6
REV 1836.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 28.1 DEGREES
PERIGEE LONGITUDE 89.8 DEGREES
PERIGEE GMT 0 41 16

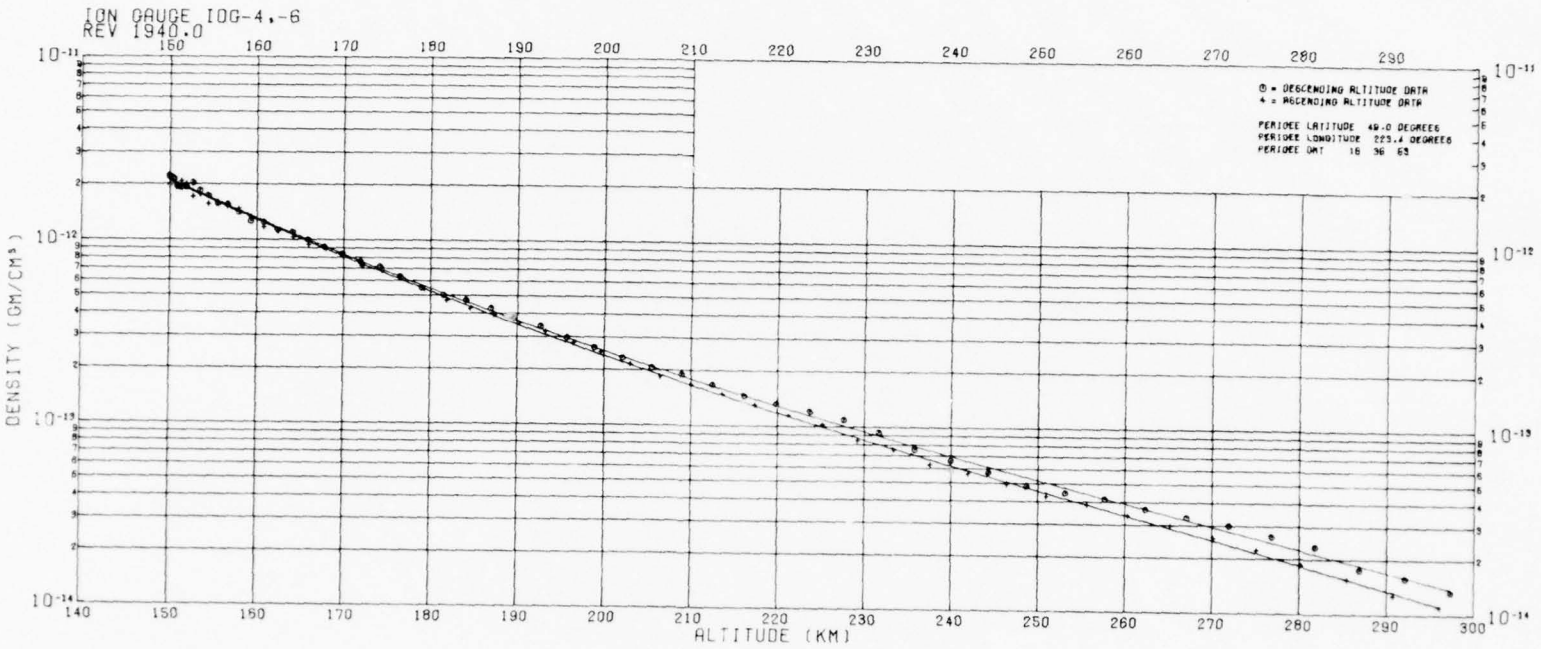

ION GAUGE IDG-4.-6
REV 1840.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 28.8 DEGREES
PERIGEE LONGITUDE 362.8 DEGREES
PERIGEE GMT 7 49 21
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
140
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

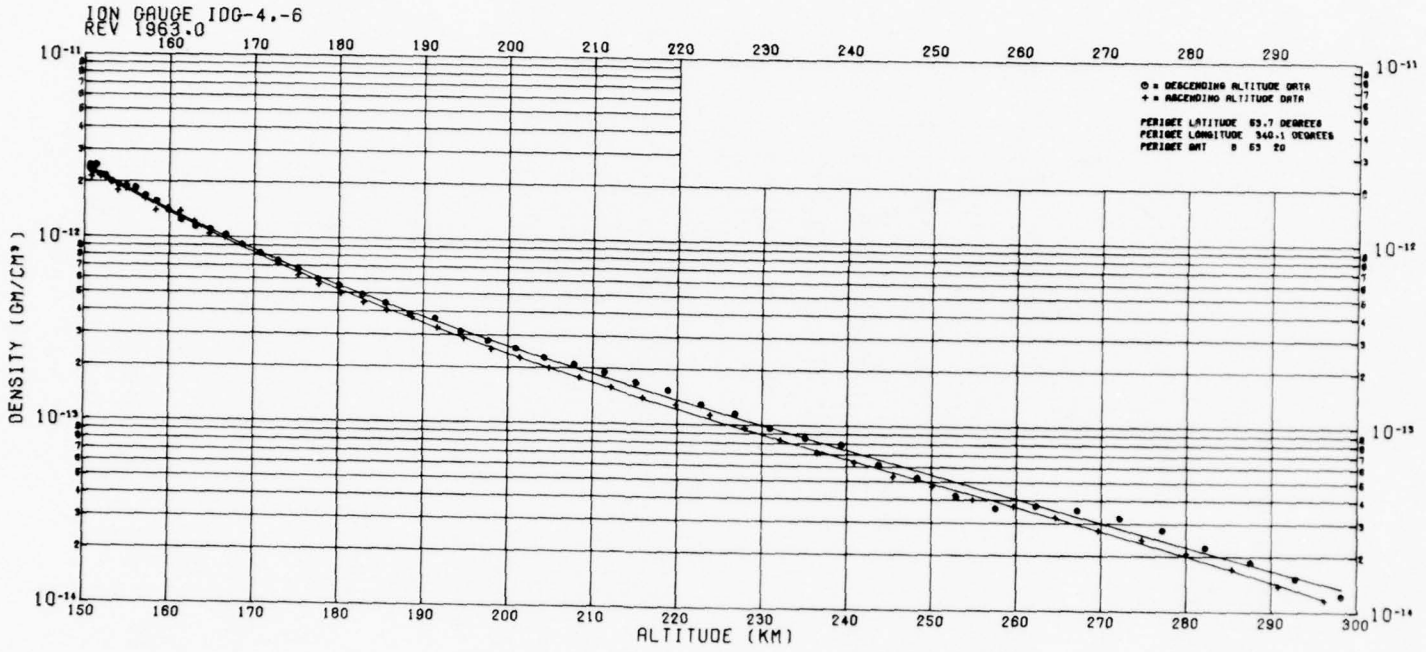

ION GAUGE IDG-4.-6
REV 1841.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 28.0 DEGREES
PERIGEE LONGITUDE 326.2 DEGREES
PERIGEE GMT 9 36 16
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
140
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

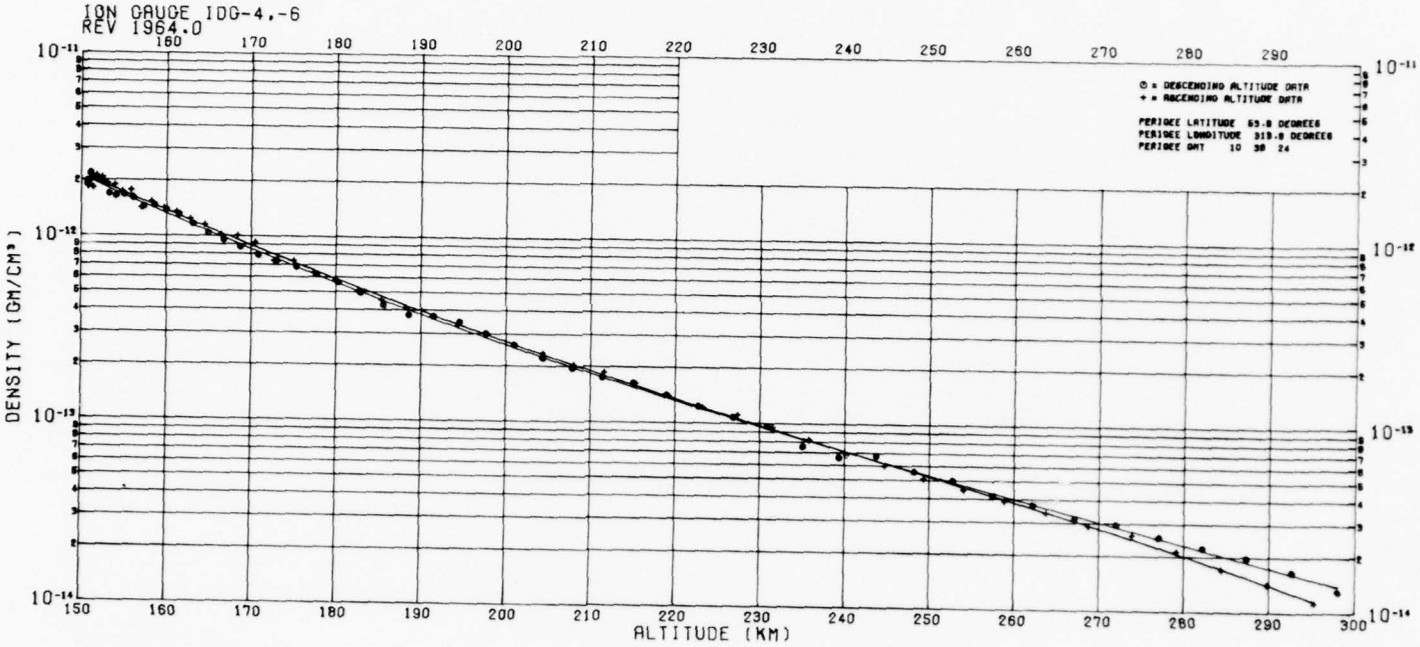

ION GAUGE IDG-4,-6
REV 1844.0
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 29.6 DEGREES
PERIGEE LONGITUDE 246.0 DEGREES
PERIGEE GMT 14 66 14
DENSITY (GM/CM³)
ALTITUDE (KM)

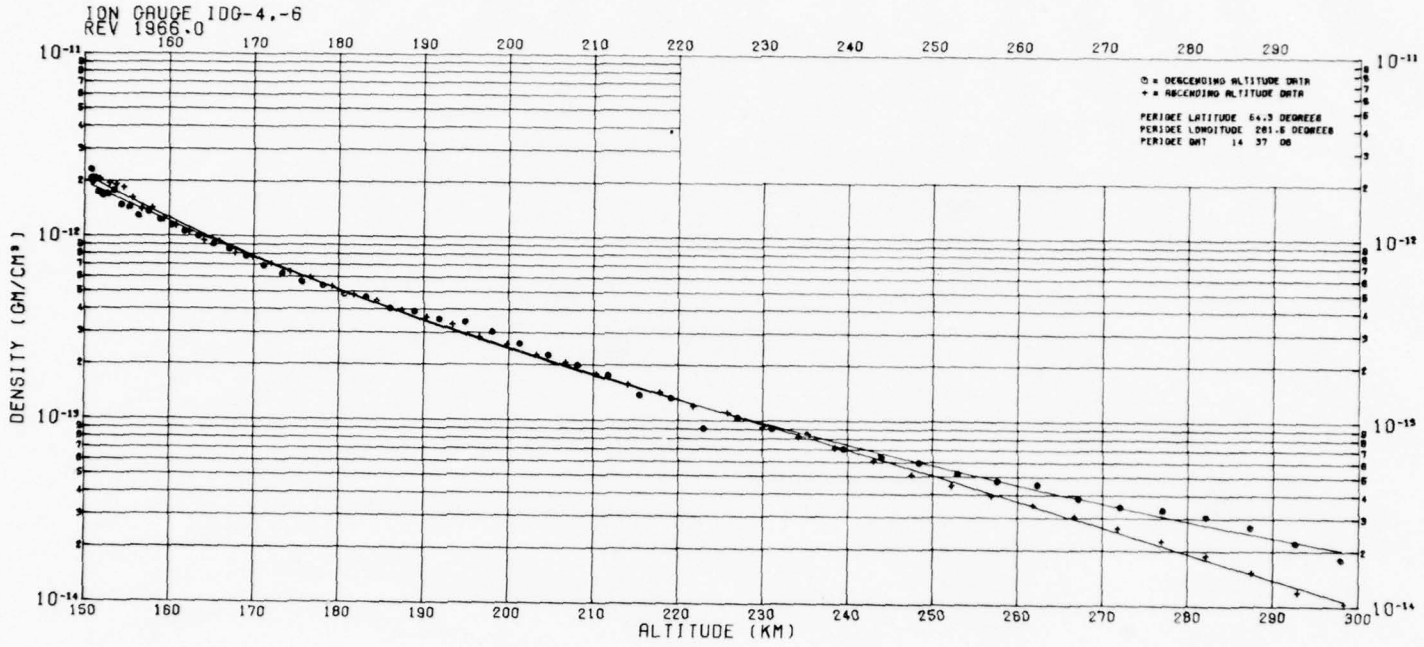

ION GAUGE IDG-4,-6
REV 1845.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 28.8 DEGREES
PERIGEE LONGITUDE 219.4 DEGREES
PERIGEE GMT 16 44 31

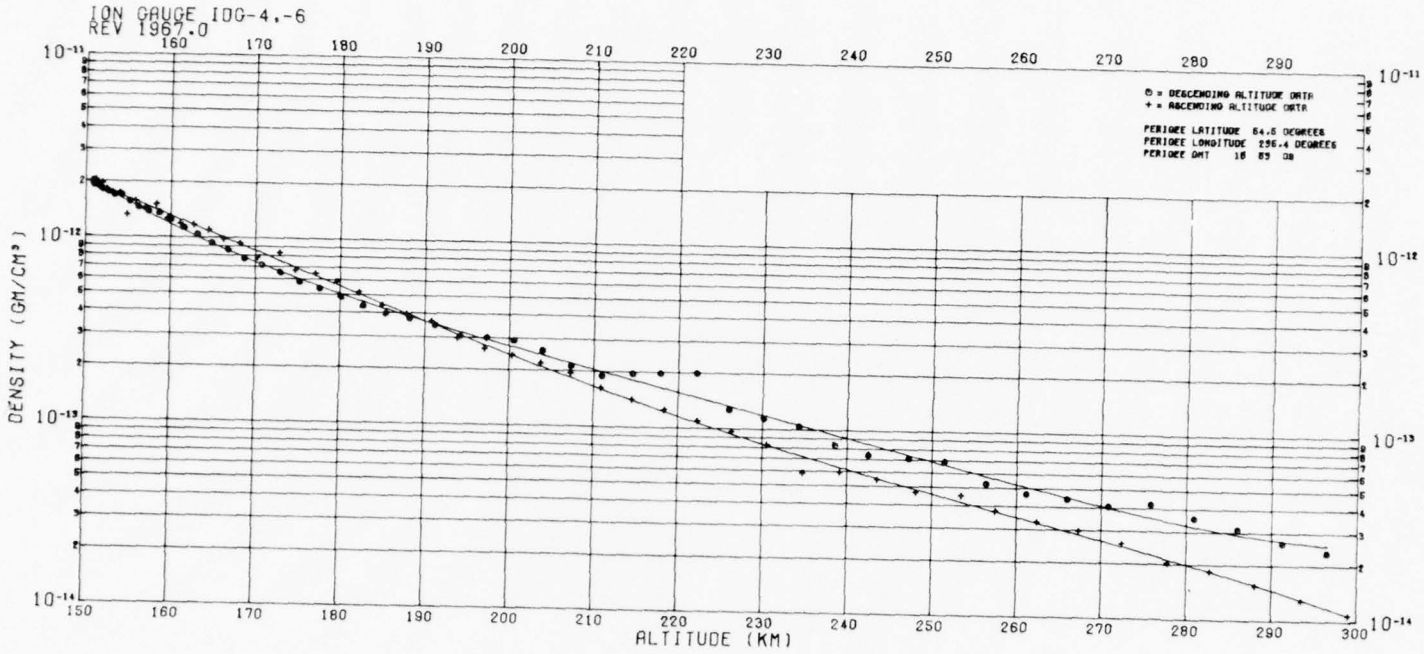

ION GAUGE IDG-4,-6
REV 1845.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 30.0 DEGREES
PERIGEE LONGITUDE 182.7 DEGREES
PERIGEE GMT 18 30 26
DENSITY (GM/CM³)
ALTITUDE (KM)


ION GAUGE IOG-4,-6
REV 1940.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 48.0 DEGREES
PERIGEE LONGITUDE 223.4 DEGREES
PERIGEE GMT 18 36 63


ION GAUGE IDG-4,-6
REV 1963.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 65.7 DEGREES
PERIGEE LONGITUDE 340.1 DEGREES
PERIGEE GMT 0 03 20
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300


ION GAUGE IDG-4,-6
REV 1964.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 65.8 DEGREES
PERIGEE LONGITUDE 318.8 DEGREES
PERIGEE GMT 10 38 24


ION GAUGE IDG-4,-6
REV 1966.0
DENSITY (GM/CM³)
ALTITUDE (KM)
○ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 64.3 DEGREES
PERIGEE LONGITUDE 281.6 DEGREES
PERIGEE GMT 14 37 08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REV 1967.0
DENSITY (GM/CM³)
ALTITUDE (KM)
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240
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290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
© = DESCENDING ALTITUDE DATA
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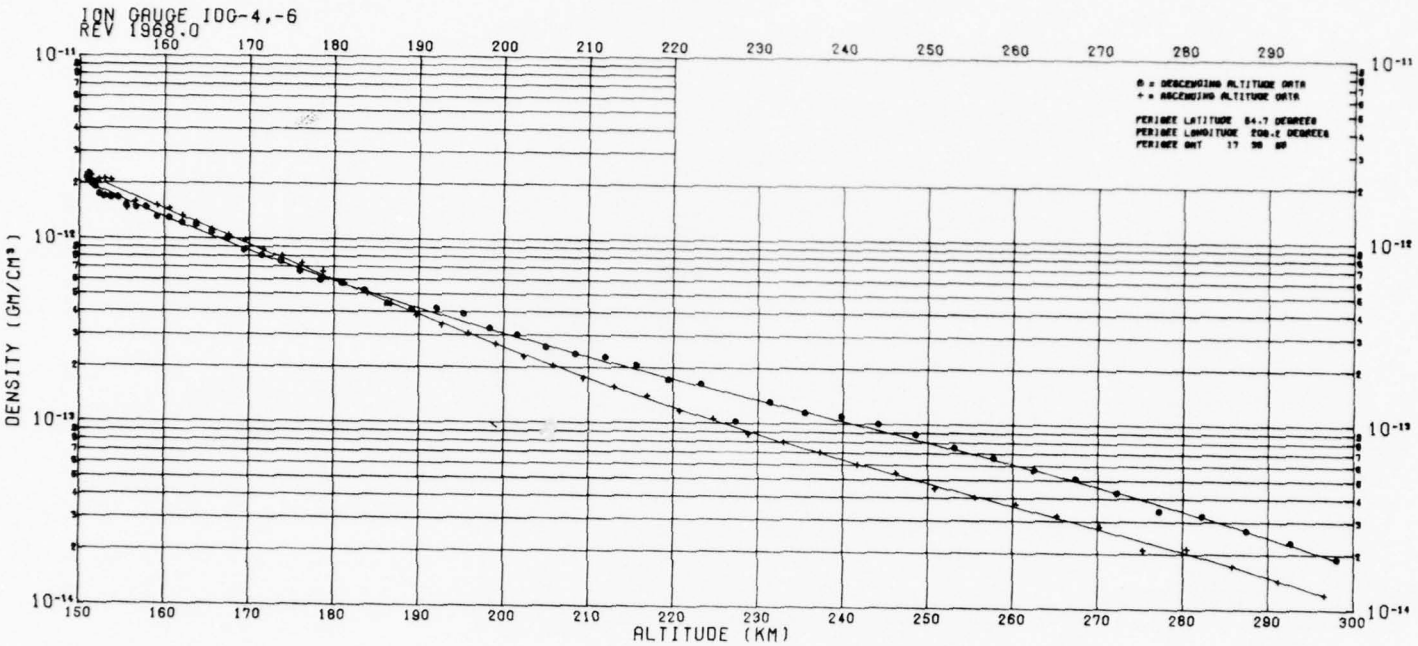
PERIGEE LATITUDE 64.6 DEGREES
PERIGEE LONGITUDE 256.4 DEGREES
PERIGEE GMT 16 05 38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ALTITUDE (KM)
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300
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10⁻¹²
10⁻¹³
10⁻¹⁴
- = DESCENDING ALTITUDE DATA
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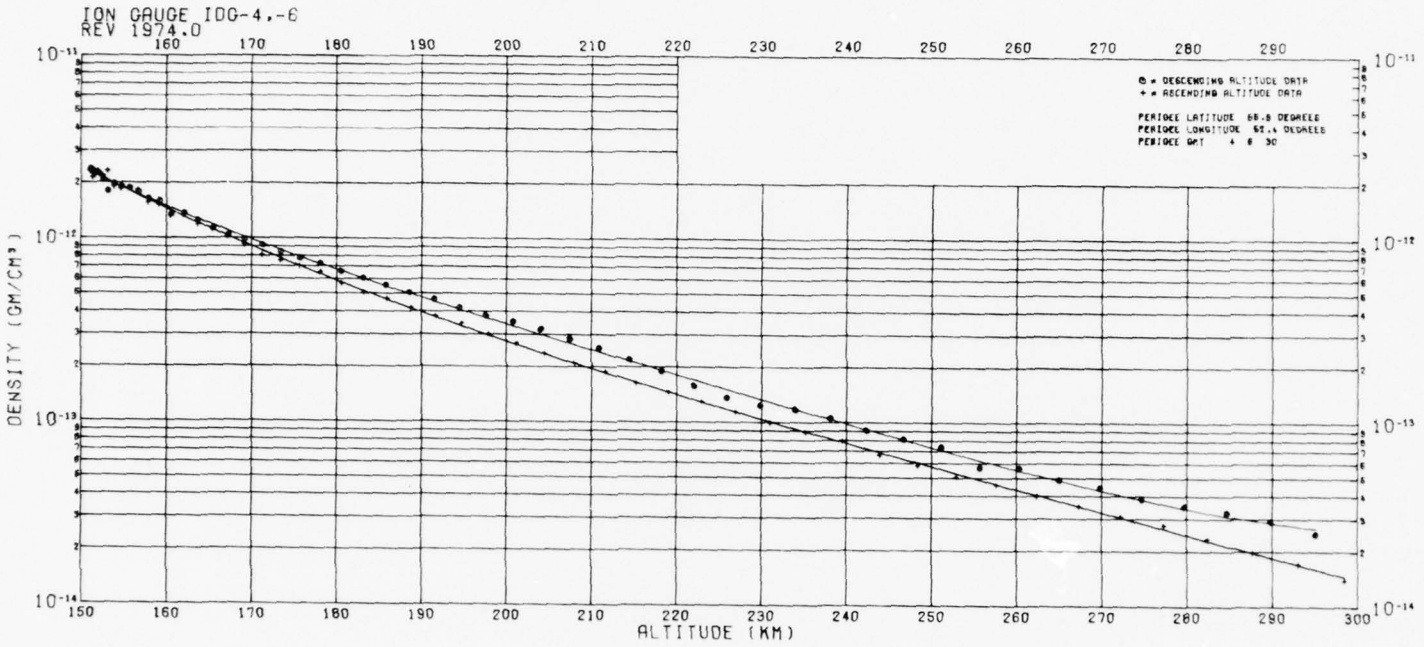
PERIGEE LONGITUDE 108.2 DEGREES
PERIGEE GMT 17 58 00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REV 1974.0
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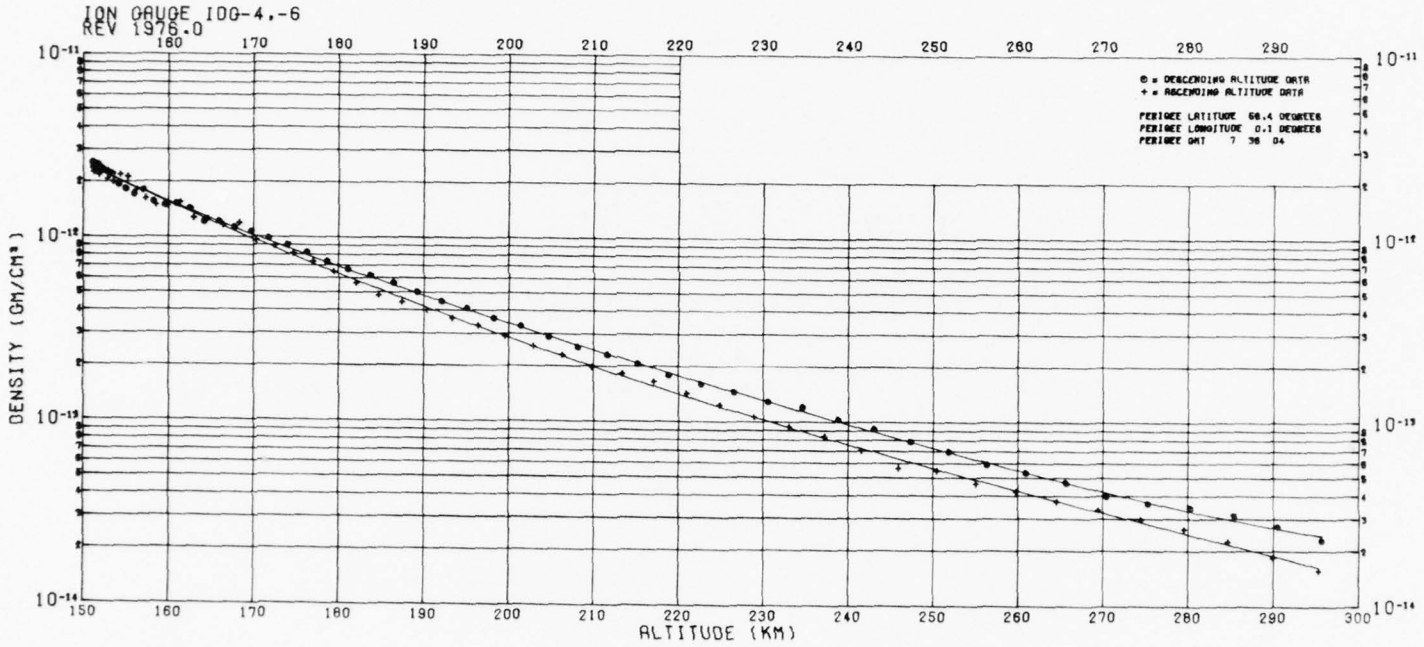
PERIGEE LATITUDE 68.8 DEGREES
PERIGEE LONGITUDE 52.4 DEGREES
PERIGEE GMT 4 6 30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PERIGEE LATITUDE 68.4 DEGREES
PERIGEE LONGITUDE 0.1 DEGREES
PERIGEE GMT 7 38 04
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
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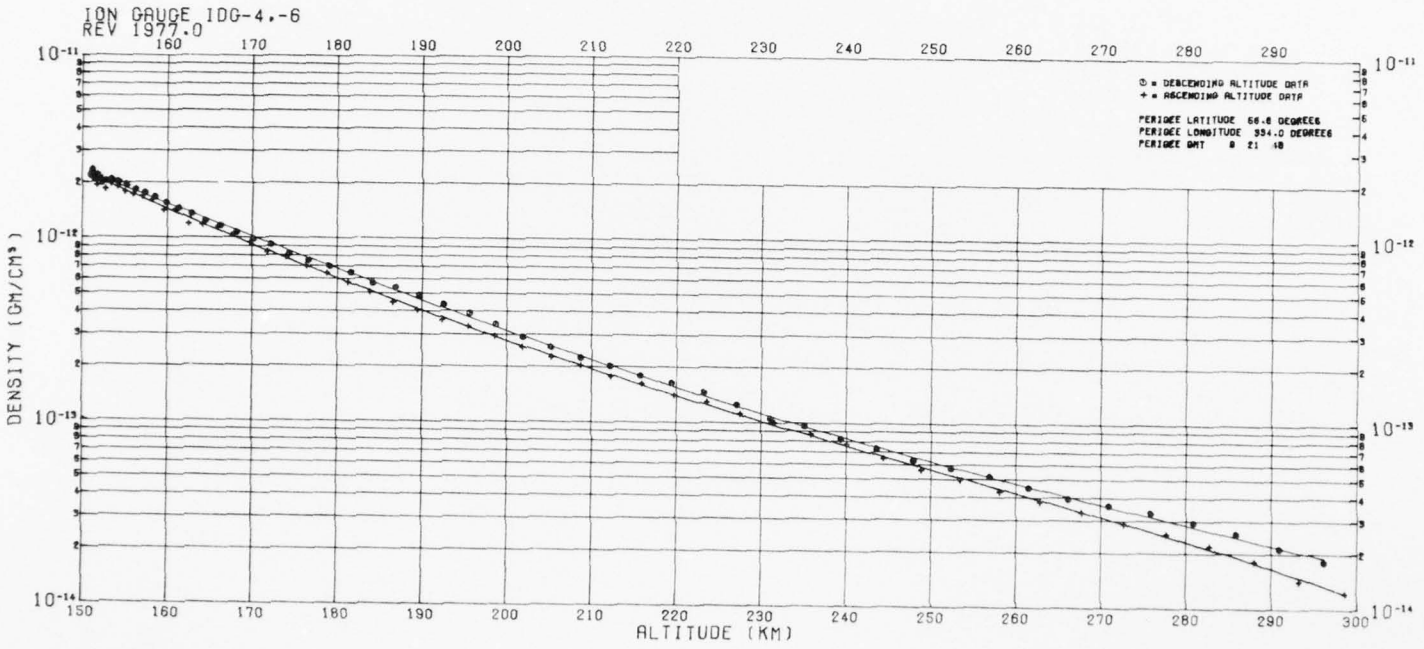
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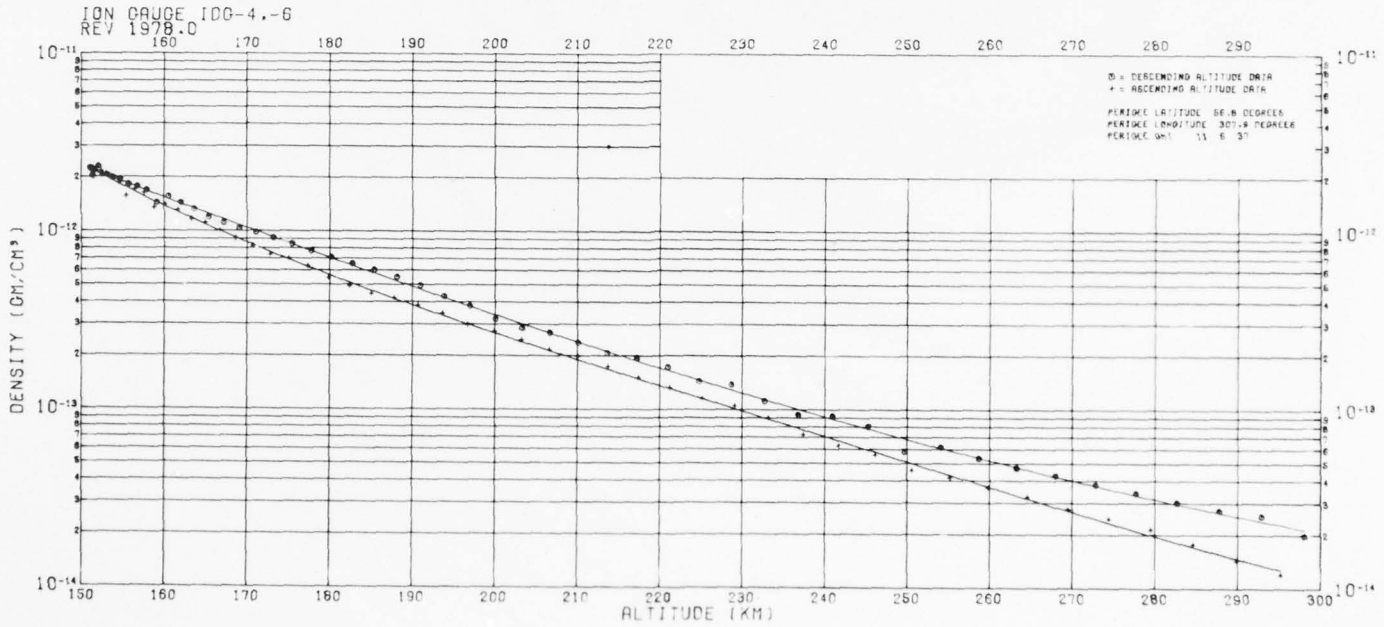
PERIGEE LONGITUDE 354.0 DEGREES
PERIGEE GMT 0 21 48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280
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10⁻¹²
10⁻¹³
10⁻¹⁴
D = DESCENDING ALTITUDE DATA
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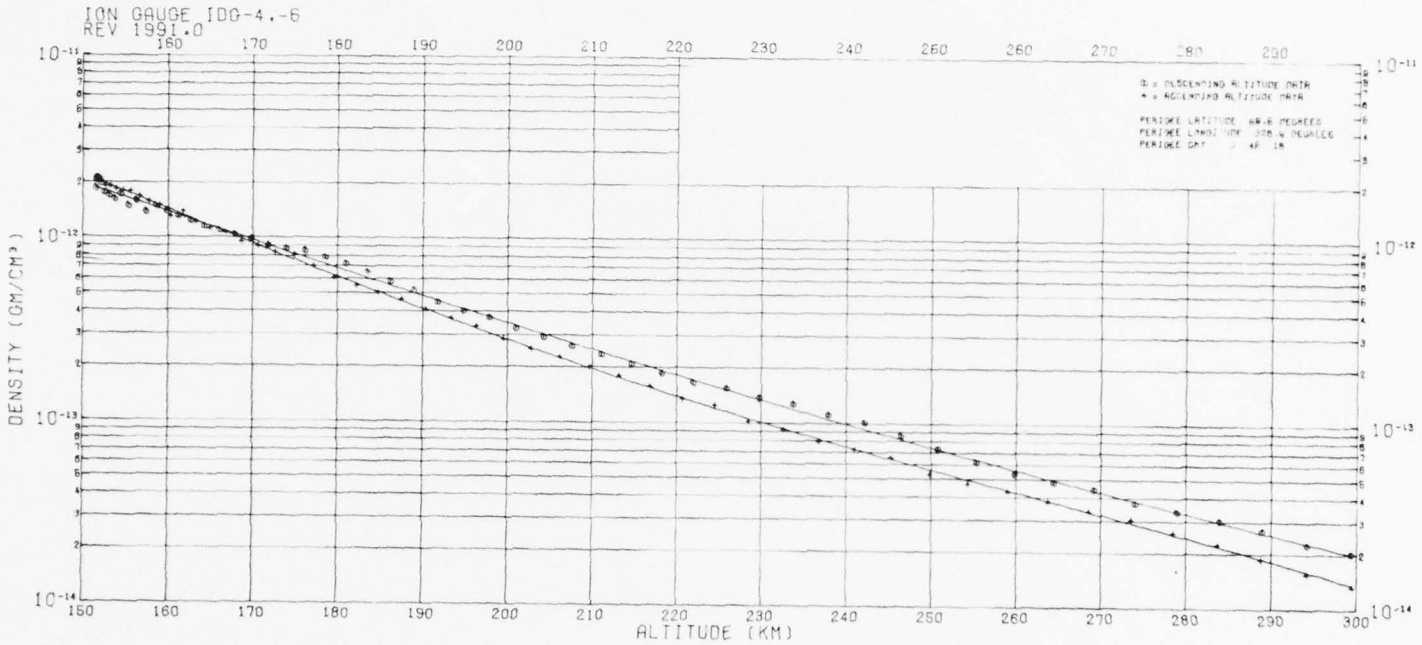
PERIGEE LATITUDE 56.8 DEGREES
PERIGEE LONGITUDE 307.9 DEGREES
PERIGEE GMT 11 6 37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REV 1991.0
DENSITY (GM/CM³)
ALTITUDE (KM)
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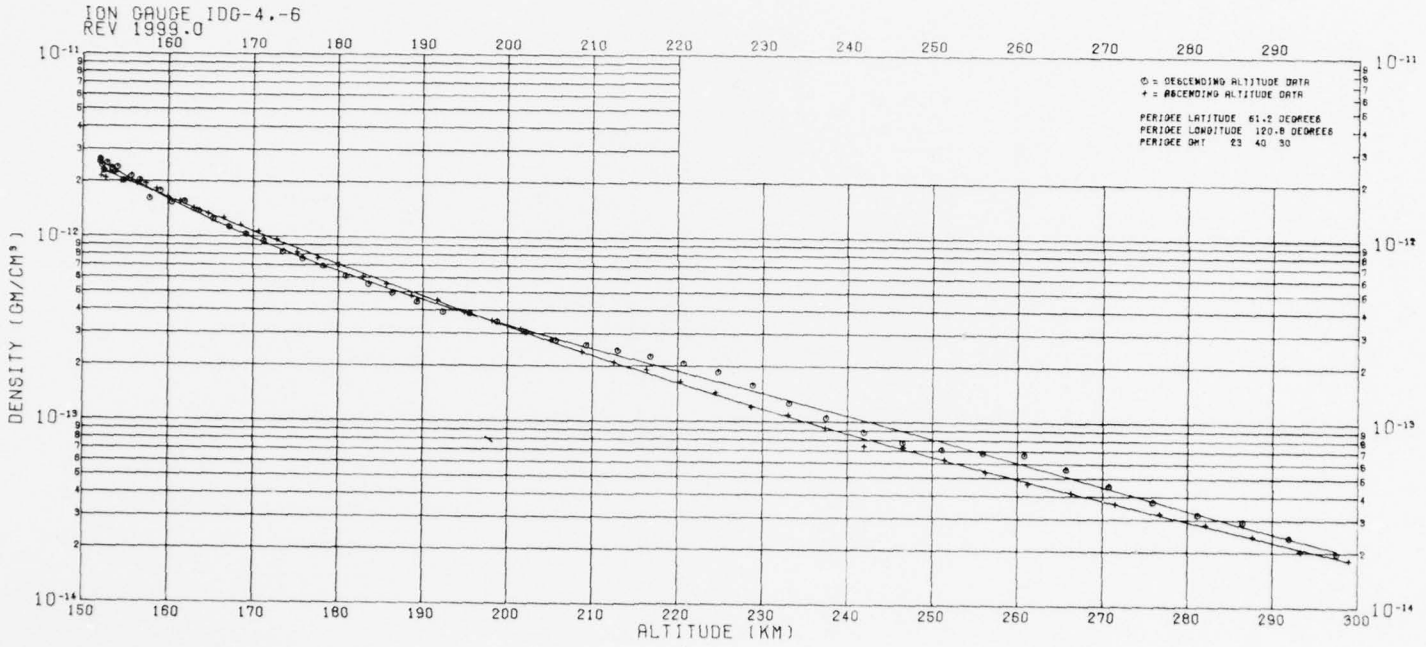
10⁻¹²
10⁻¹³
10⁻¹⁴


ION GAUGE IDG-4.-6
REV 1999.0
⊙ = DESCENDING ALTITUDE DATA
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PERIGEE LATITUDE 61.2 DEGREES
PERIGEE LONGITUDE 120.8 DEGREES
PERIGEE GMT 23 40 30
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
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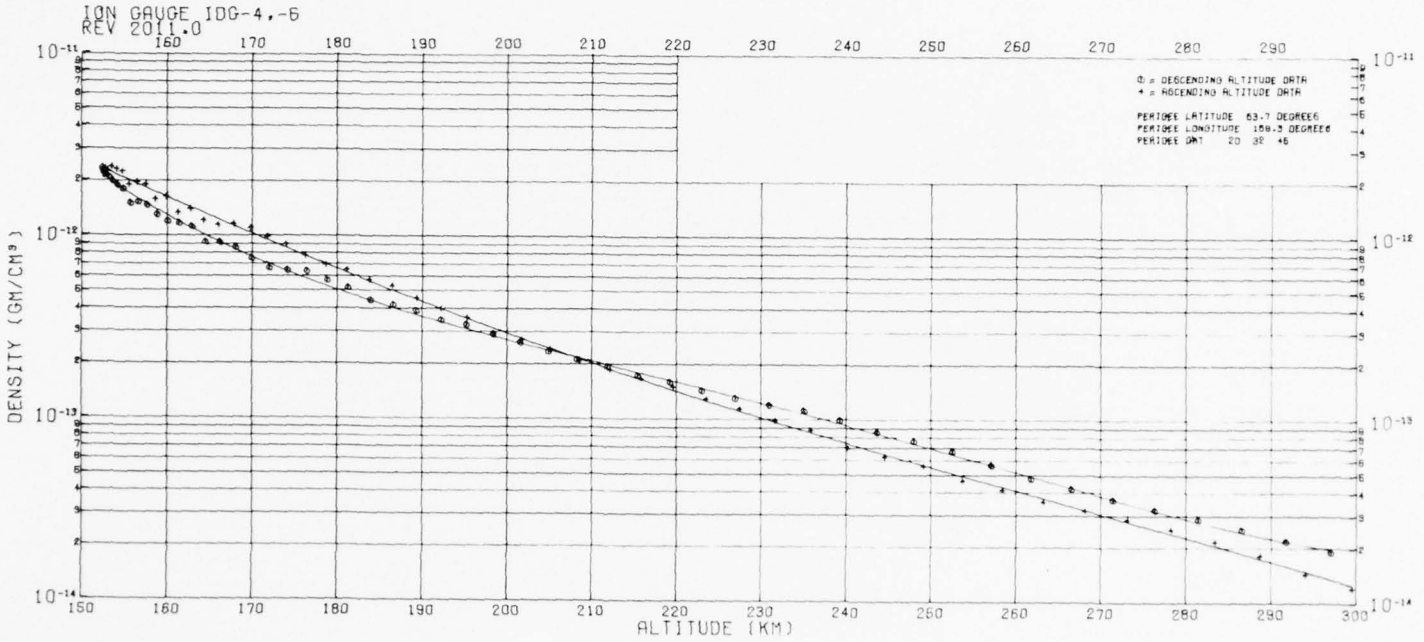
ION GAUGE IDG-4,-6
REV 2011.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
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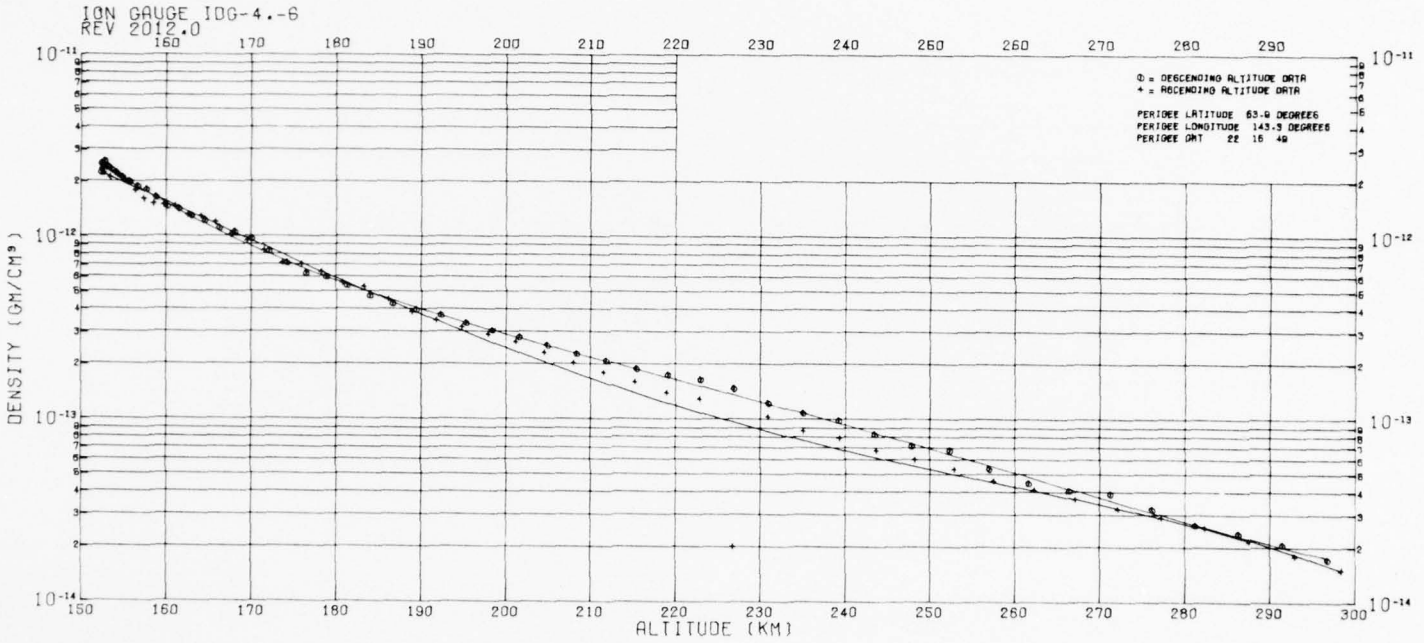
PERIGEE LATITUDE 63.7 DEGREES
PERIGEE LONGITUDE 158.3 DEGREES
PERIGEE GMT 20 32 46


ION GAUGE IDG-4.-6
REV 2012.0
Φ = DESCENDING ALTITUDE DATA
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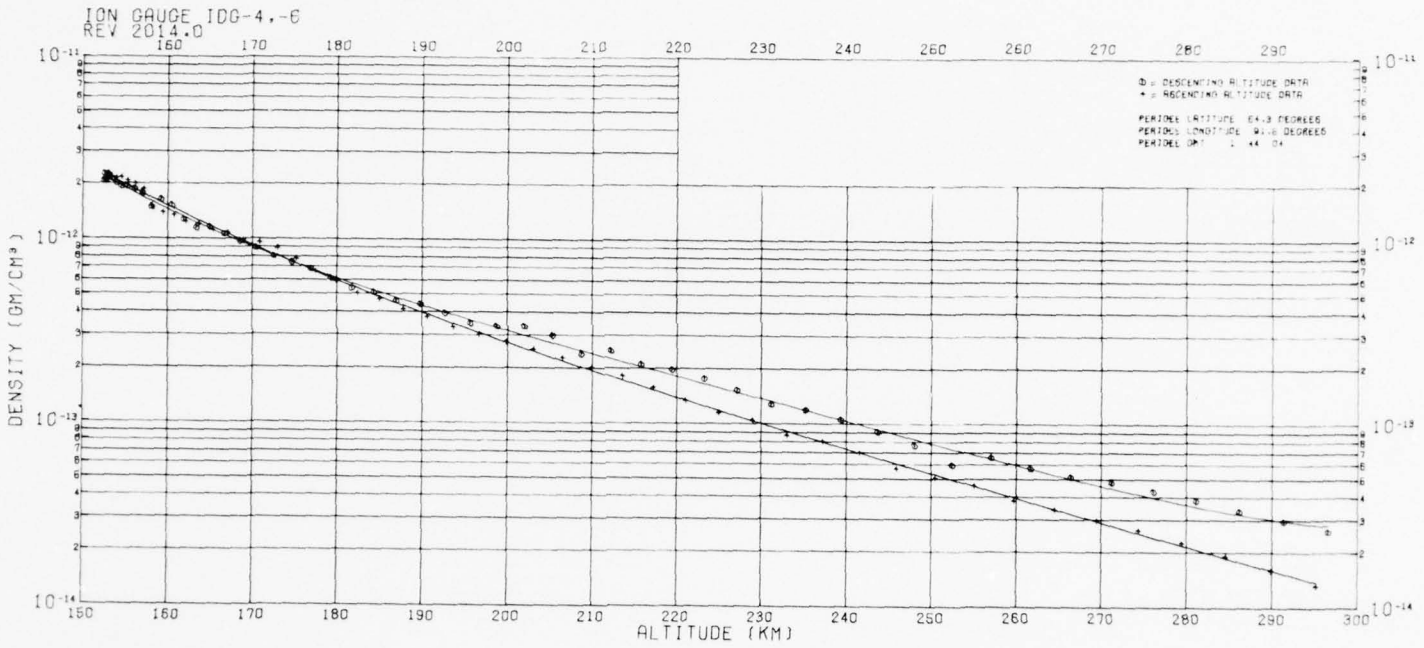
PERIGEE LONGITUDE 143.3 DEGREES
PERIGEE GMT 22 16 49
DENSITY (GM/CM³)
ALTITUDE (KM)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REV 2014.0
DENSITY (GM/CM³)
ALTITUDE (KM)
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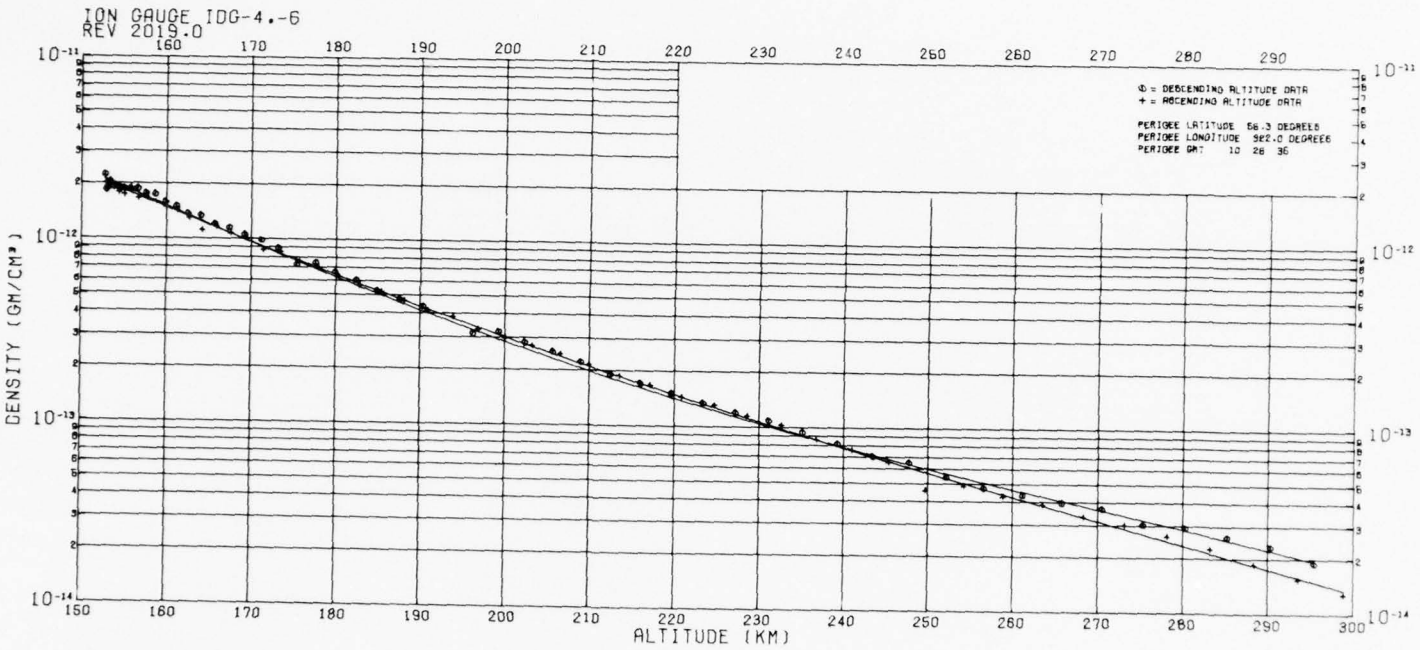
PERIGEE LATITUDE 64.3 DEGREES
PERIGEE LONGITUDE 81.6 DEGREES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REV 2019.0
Φ = DESCENDING ALTITUDE DATA
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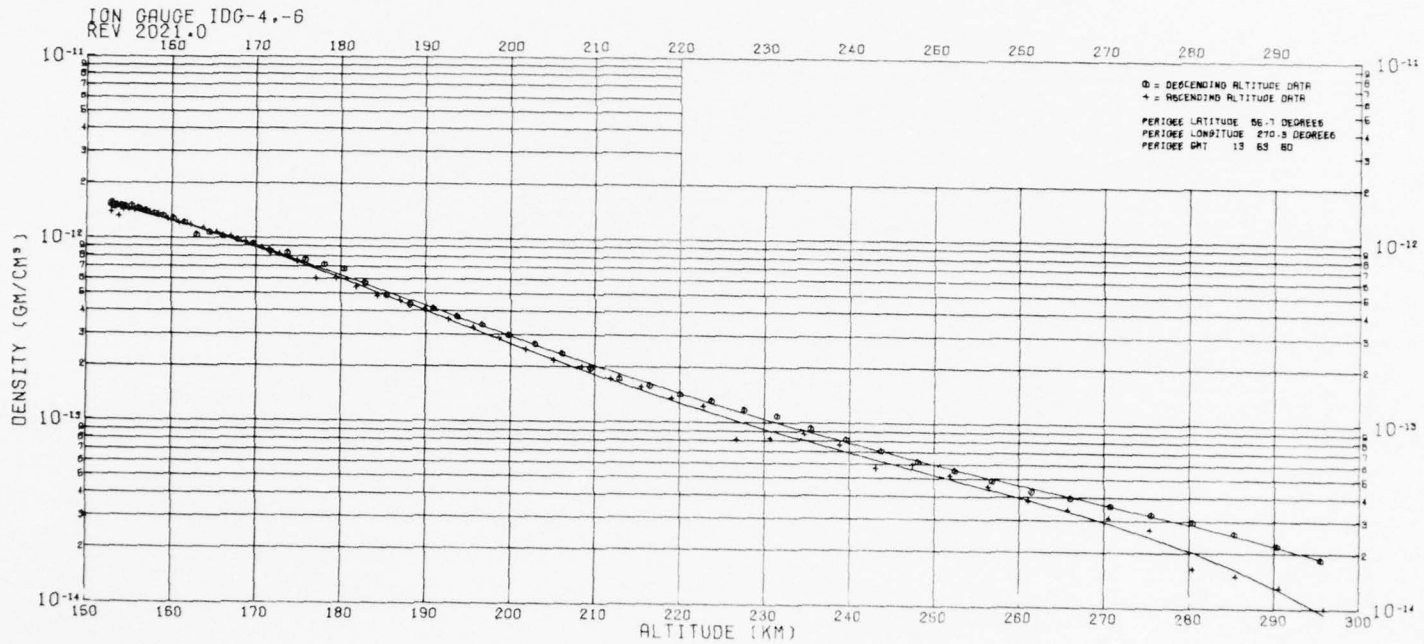
PERIGEE LATITUDE 56.3 DEGREES
PERIGEE LONGITUDE 92.0 DEGREES
PERIGEE GMT 10 28 36
DENSITY (GM/CM³)
ALTITUDE (KM)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REV 2021.0
Φ = DESCENDING ALTITUDE DATA
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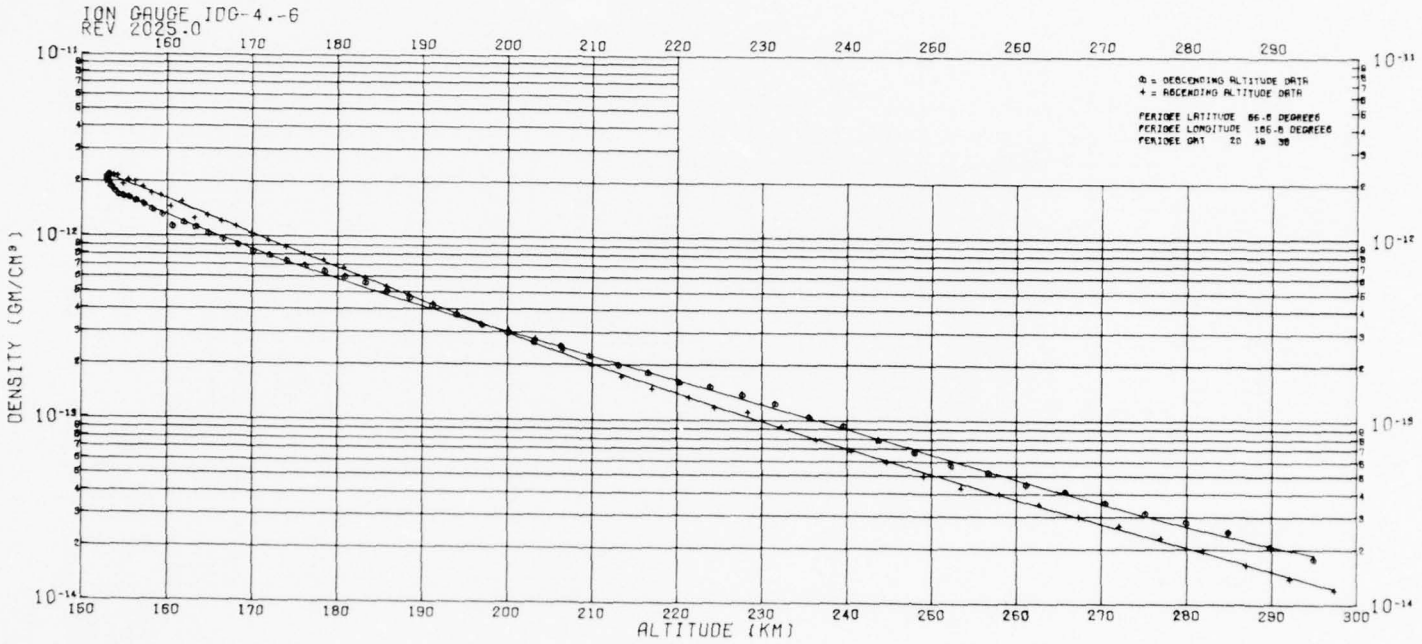
PERIGEE LATITUDE 56.7 DEGREES
PERIGEE LONGITUDE 270.3 DEGREES
PERIGEE GMT 13 53 50
DENSITY (GM/CM³)
ALTITUDE (KM)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PERIGEE LATITUDE 66.6 DEGREES
PERIGEE LONGITUDE 186.8 DEGREES
PERIGEE GMT 20 49 38
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
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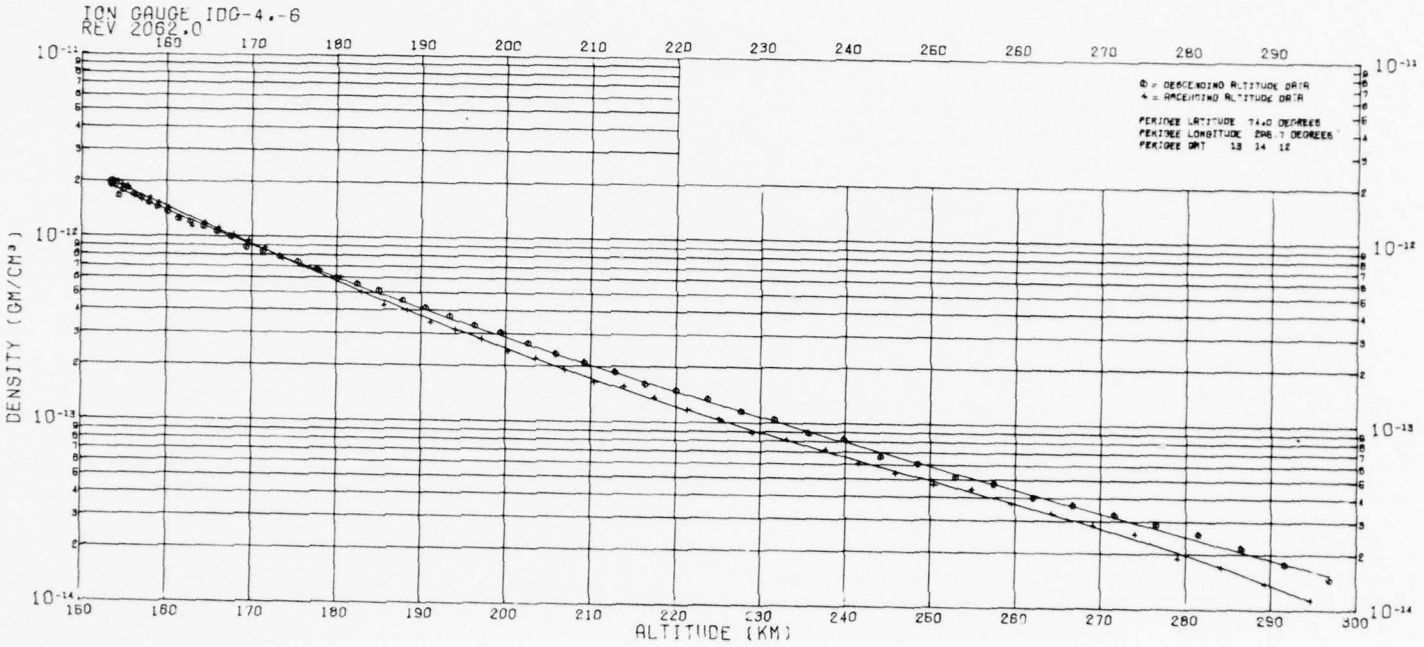
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴


ION GAUGE IDG-4.-6
REV 2062.0
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PERIGEE LATITUDE 74.0 DEGREES
PERIGEE LONGITUDE 298.7 DEGREES
PERIGEE GMT 13 14 12
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
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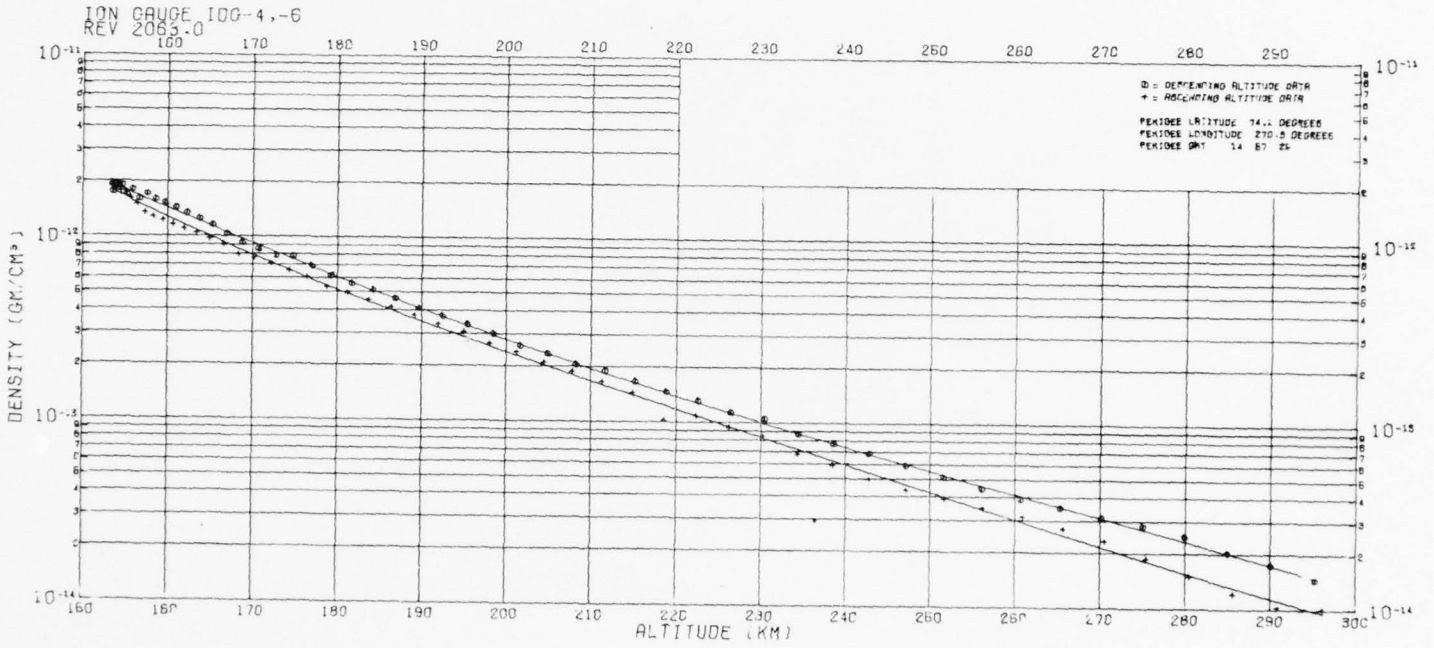
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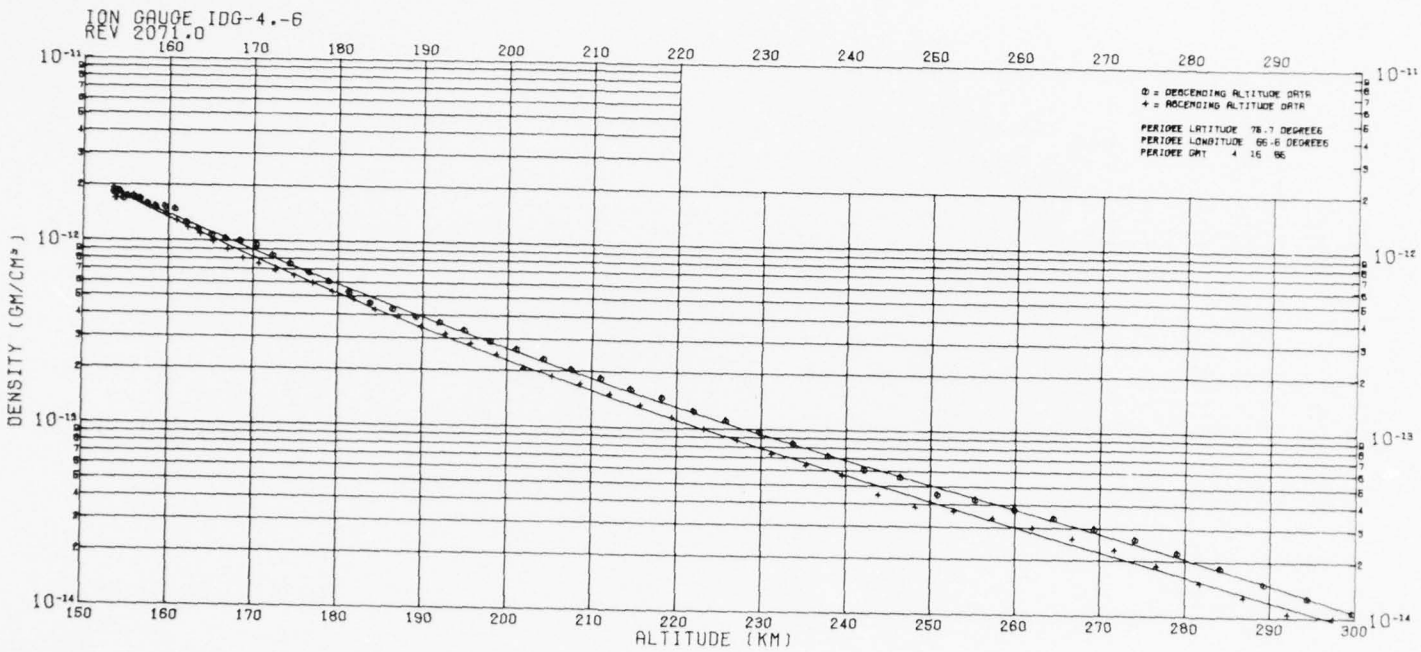
REV 2063.0
Φ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 74.1 DEGREES
PERIGEE LONGITUDE 270.5 DEGREES
PERIGEE GMT 14 57 25
DENSITY (GM/CM³)
ALTITUDE (KM)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REV 2071.0
Φ = DESCENDING ALTITUDE DATA
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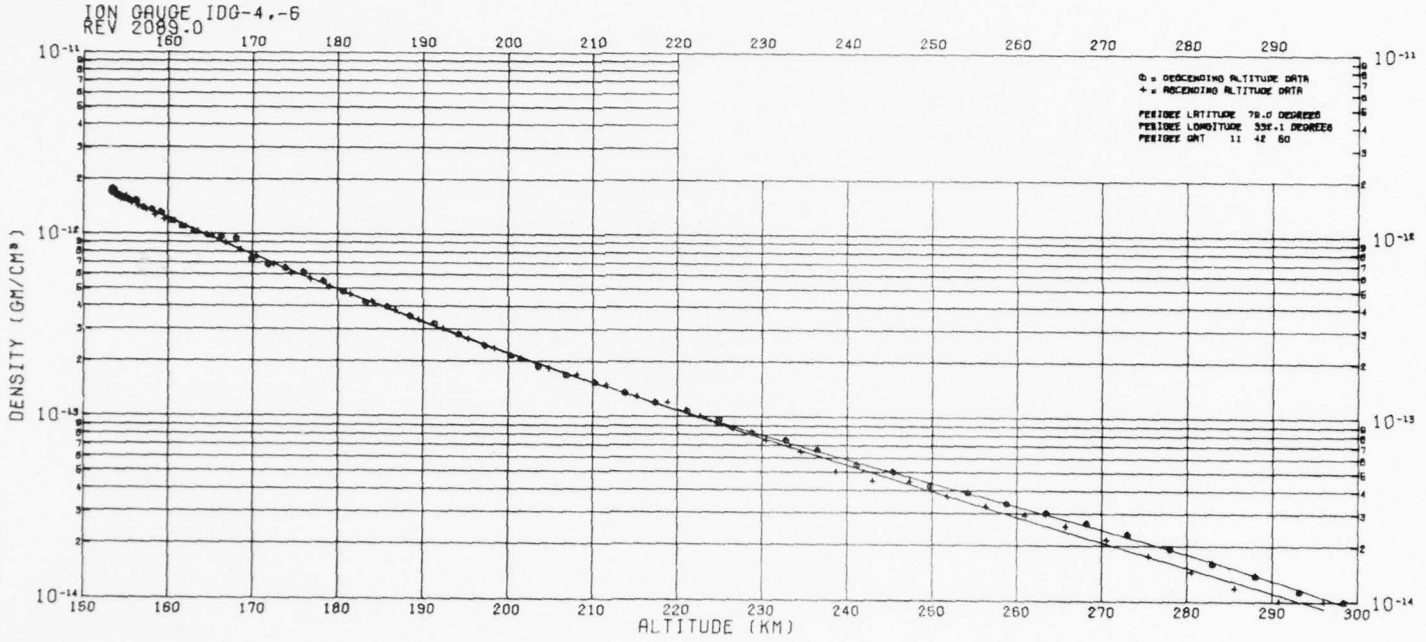
PERIGEE LONGITUDE 66.6 DEGREES
PERIGEE GMT 4 16 56
DENSITY (GM/CM³)
ALTITUDE (KM)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REV 2089.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
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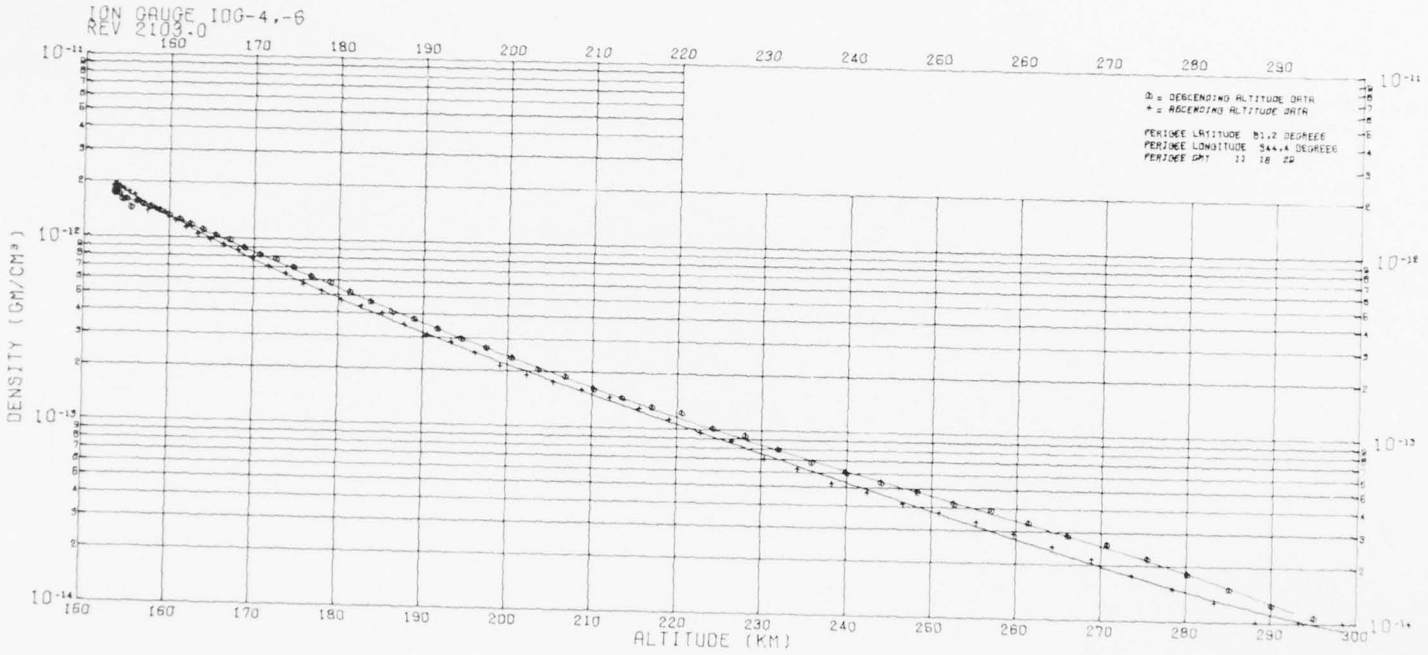
PERIGEE LATITUDE 78.0 DEGREES
PERIGEE LONGITUDE 332.1 DEGREES
PERIGEE GMT 11 42 60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REV 2103.0
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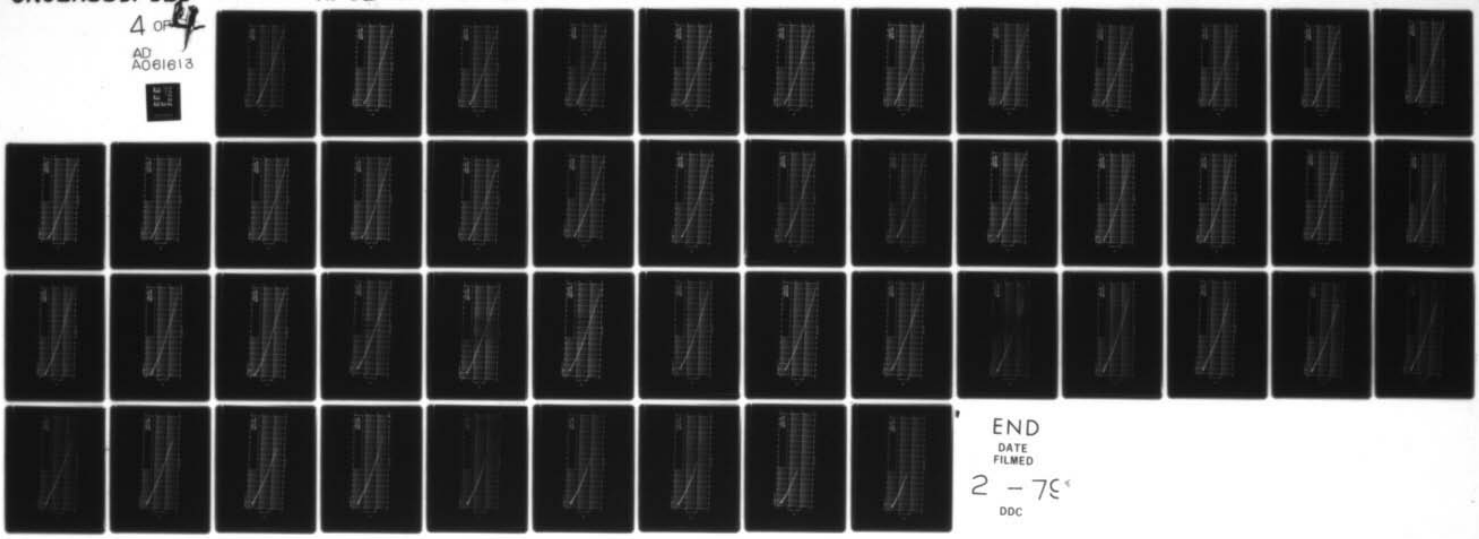
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
○ = DESCENDING ALTITUDE DATA
* = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 81.2 DEGREES
PERIGEE LONGITUDE 344.4 DEGREES
PERIGEE GMT 11 18 22

AD-A061 613 AIR FORCE GEOPHYSICS LAB HANSCOM AFB MASS F/G 4/1
SATELLITE IONIZATION GAUGE MEASUREMENTS OF ATMOSPHERIC DENSITY.(U)
AUG 78 J P MCISAAC, R E MCINERNEY, D DELOREY

UNCLASSIFIED AFGL-TR-78-0201 NL

4 OF 4
AD A061813



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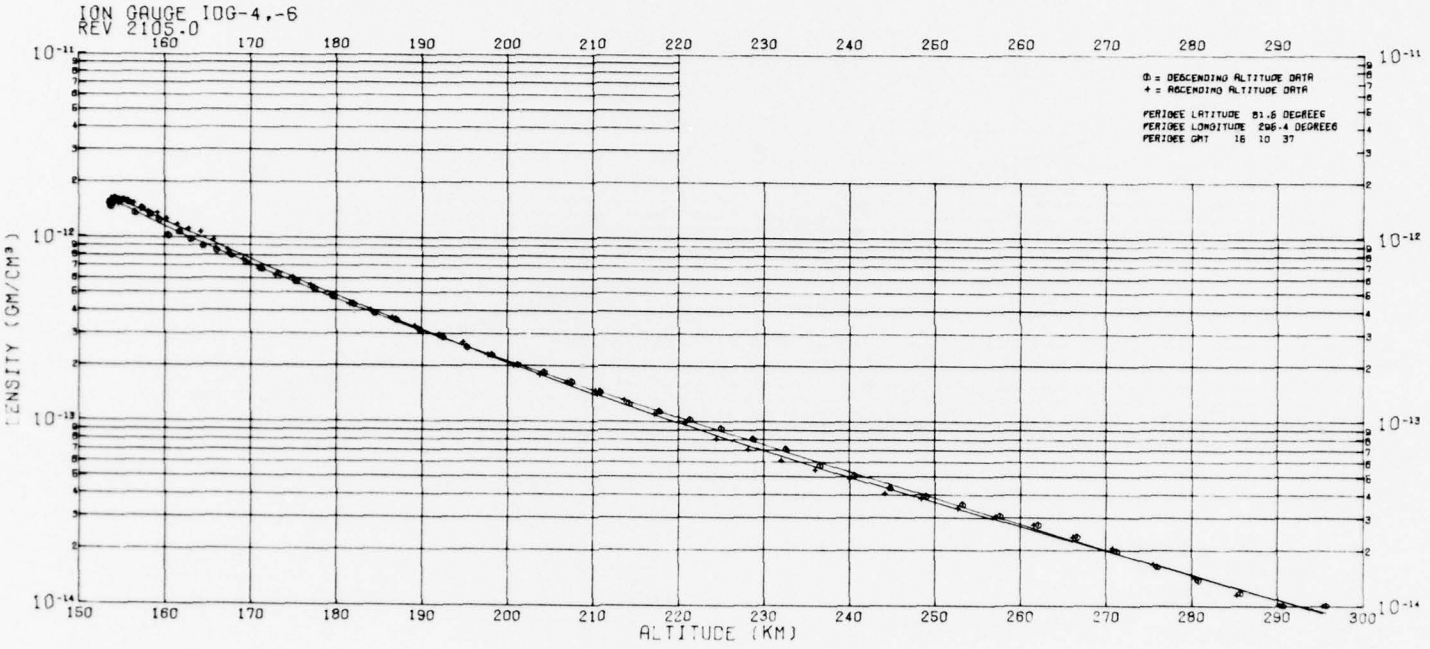
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REV 2105.0
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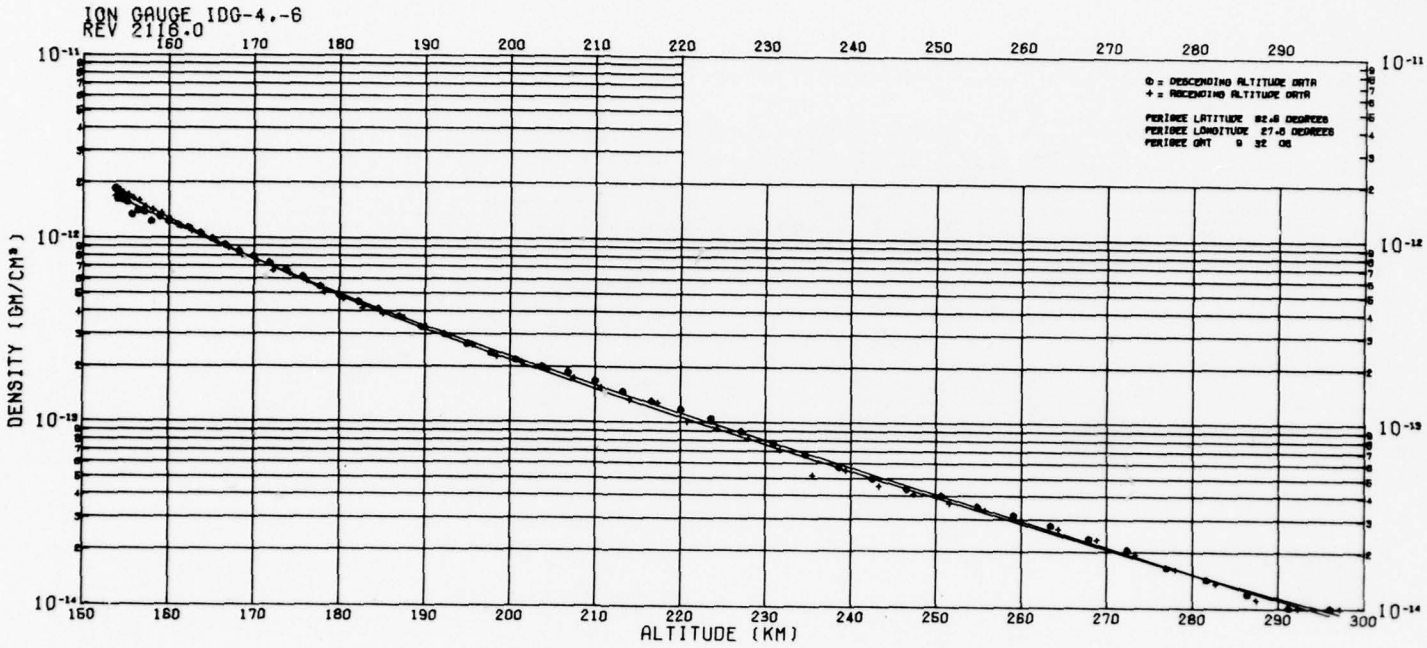
PERIGEE LONGITUDE 296.4 DEGREES
PERIGEE GMT 16 10 37
DENSITY (GM/CM³)
ALTITUDE (KM)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REV 2118.0
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PERIGEE LATITUDE 82.8 DEGREES
PERIGEE LONGITUDE 27.5 DEGREES
PERIGEE GMT 0 32 08
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
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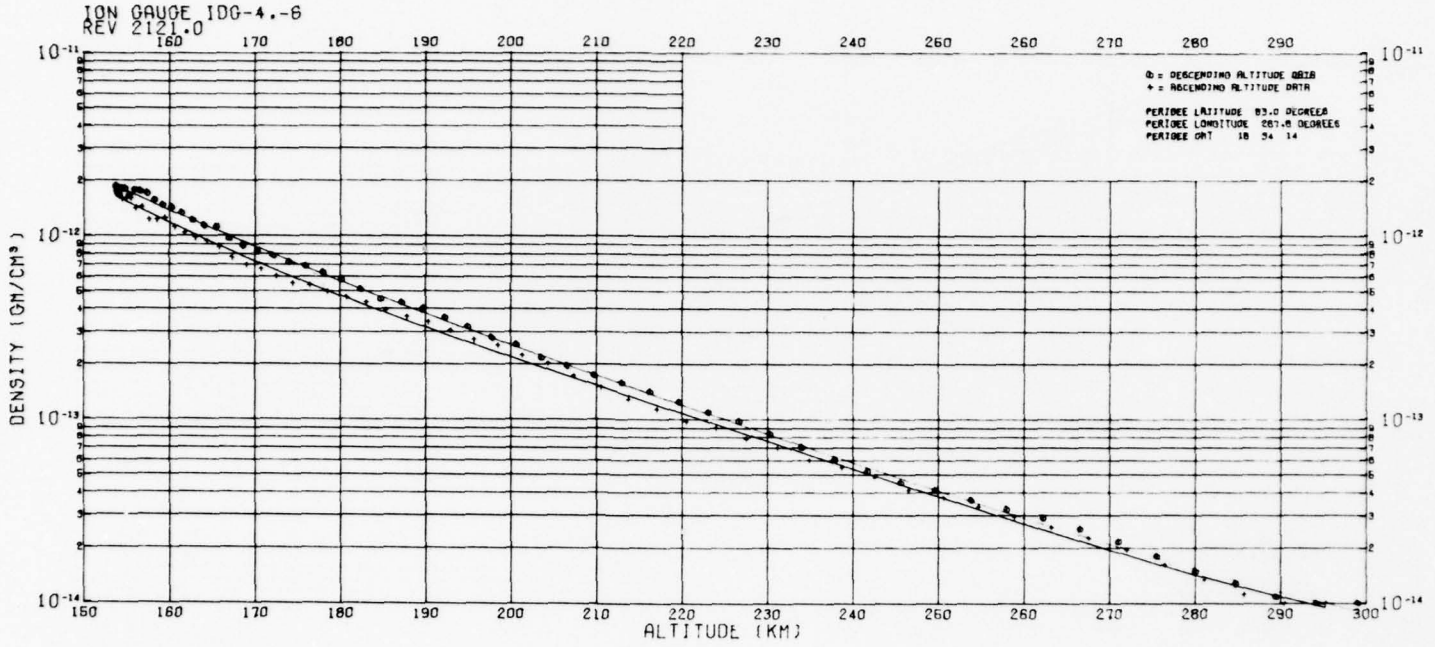
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REV 2121.0
Φ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 83.0 DEGREES
PERIGEE LONGITUDE 267.8 DEGREES
PERIGEE GMT 18 54 14
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
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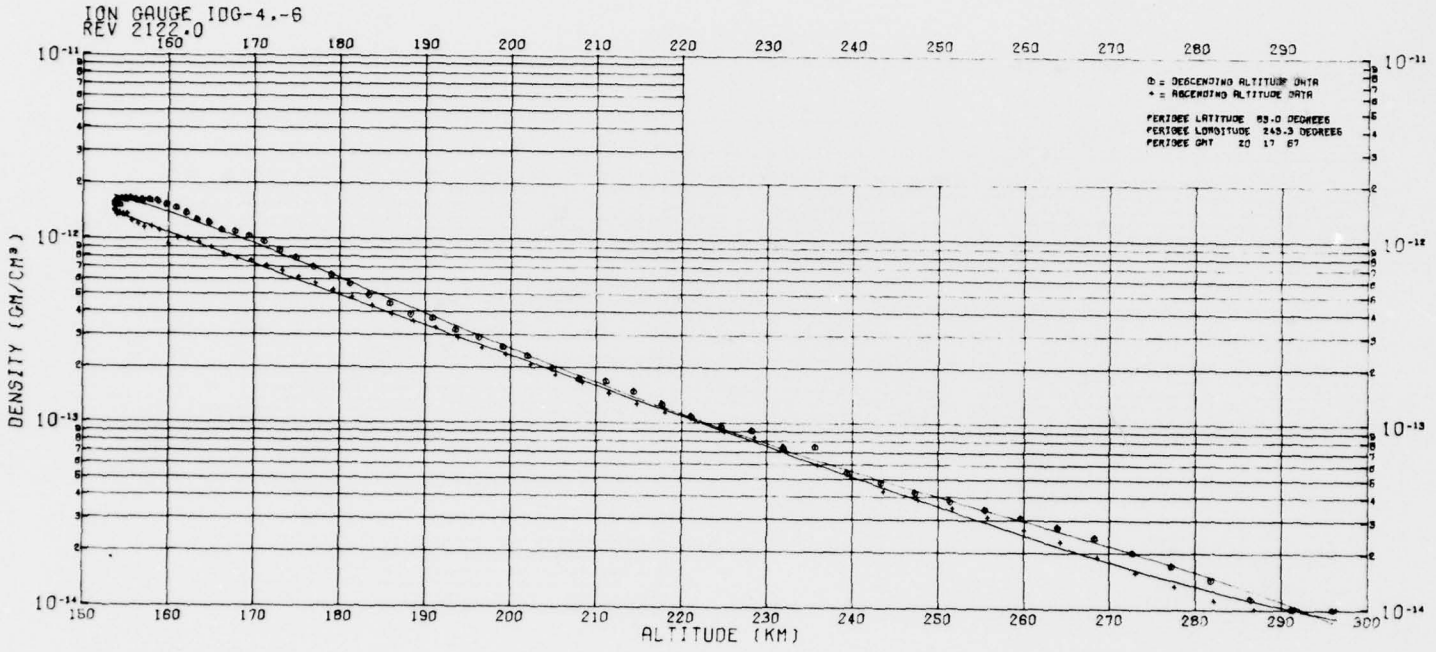
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REV 2122.0
Φ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 83.0 DEGREES
PERIGEE LONGITUDE 245.3 DEGREES
PERIGEE GMT 20 17 67
DENSITY (GM/CM³)
ALTITUDE (KM)
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160
170
180
190
200
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240
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260
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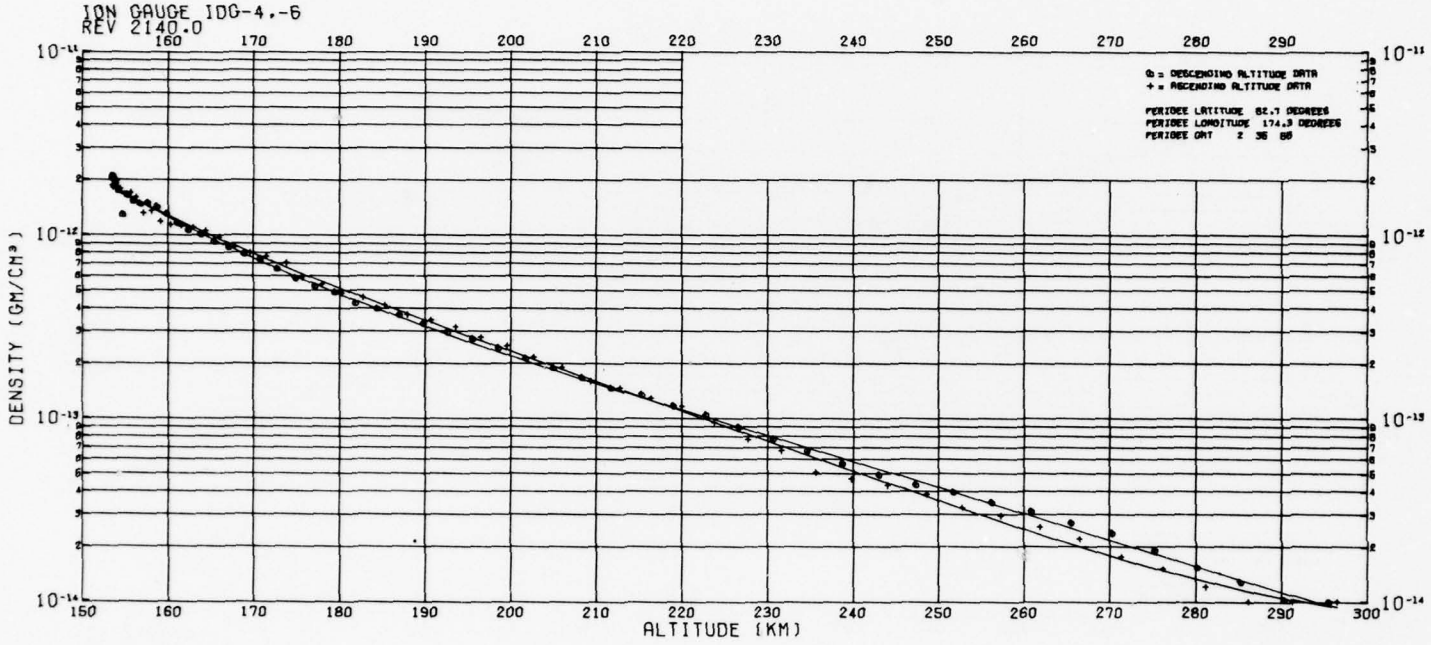
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴


ION GAUGE IDG-4,-6
REV 2140.0
G = DESCENDING ALTITUDE DATA
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PERIGEE LATITUDE 82.7 DEGREES
PERIGEE LONGITUDE 174.3 DEGREES
PERIGEE GMT 2 36 88
DENSITY (GM/CM³)
ALTITUDE (KM)
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170
180
190
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300
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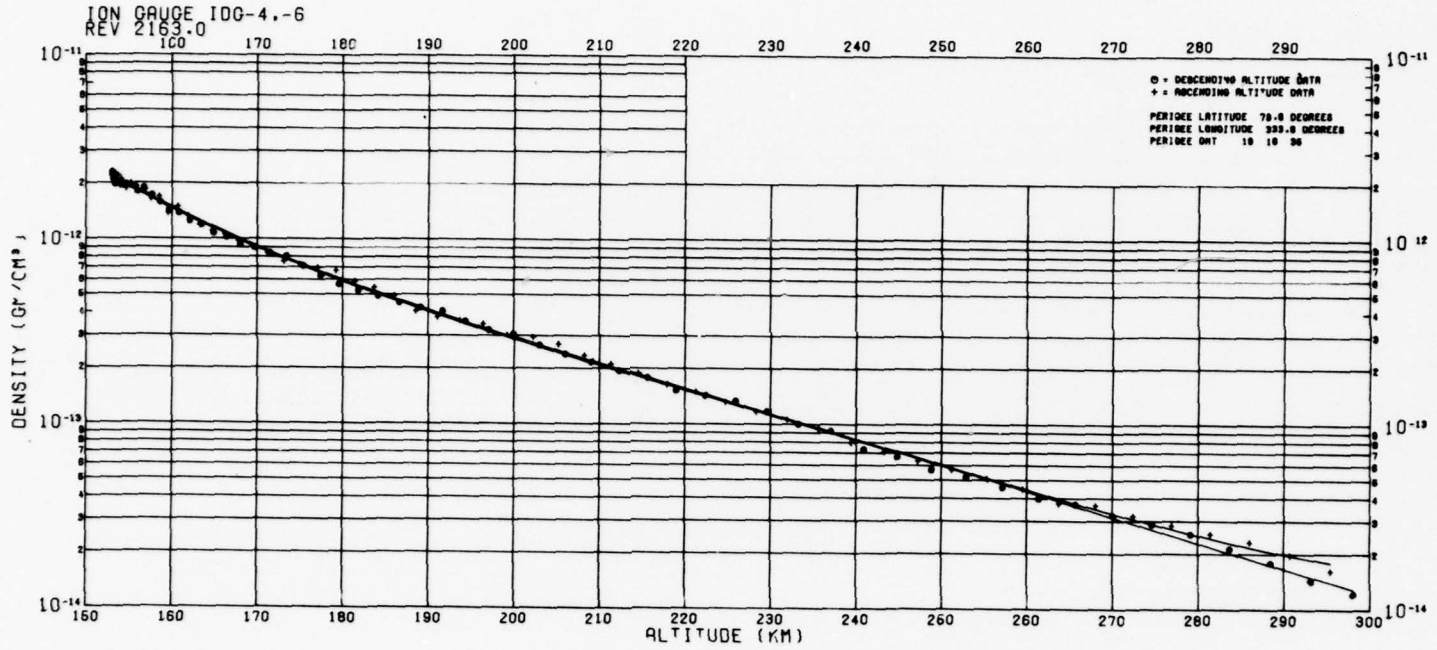
10⁻¹²
10⁻¹³
10⁻¹⁴


ION GAUGE IDG-4,-6
REV 2163.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊖ = DESCENDING ALTITUDE DATA
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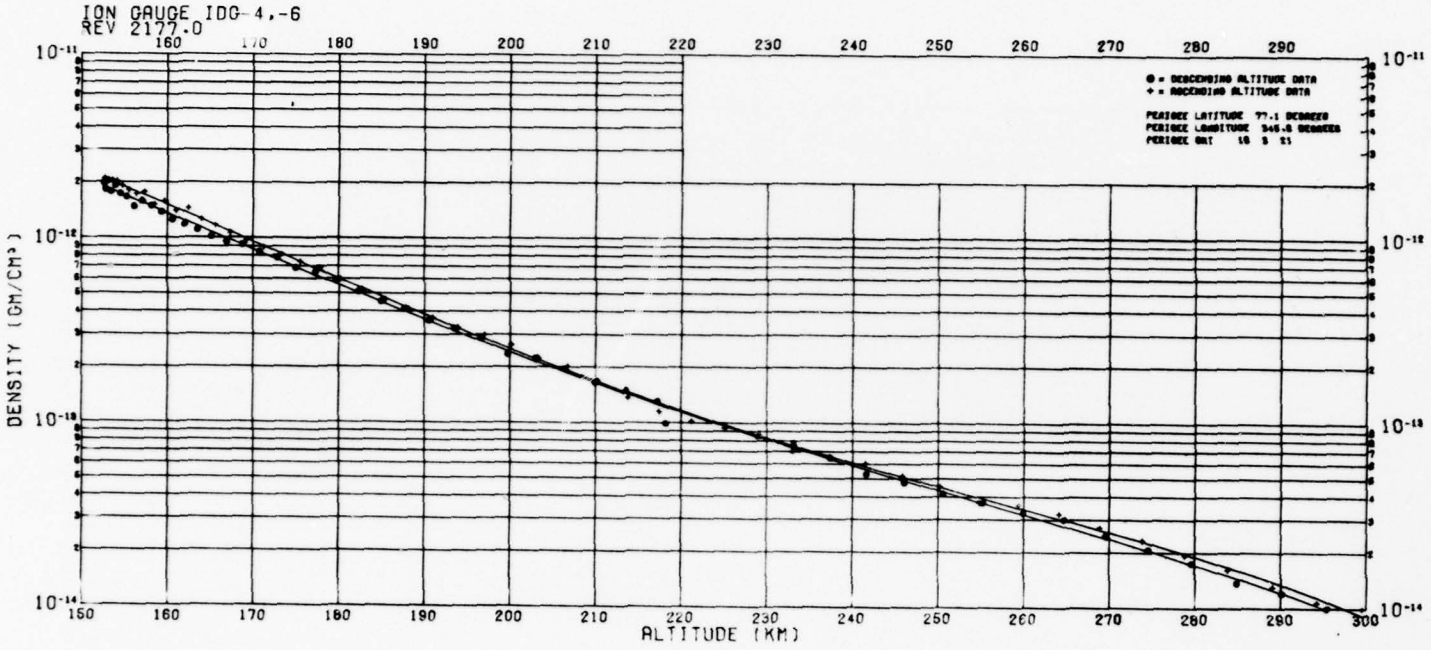
PERIGEE LATITUDE 78.8 DEGREES
PERIGEE LONGITUDE 333.8 DEGREES
PERIGEE GMT 18 18 36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REV 2177.0
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ALTITUDE (KM)
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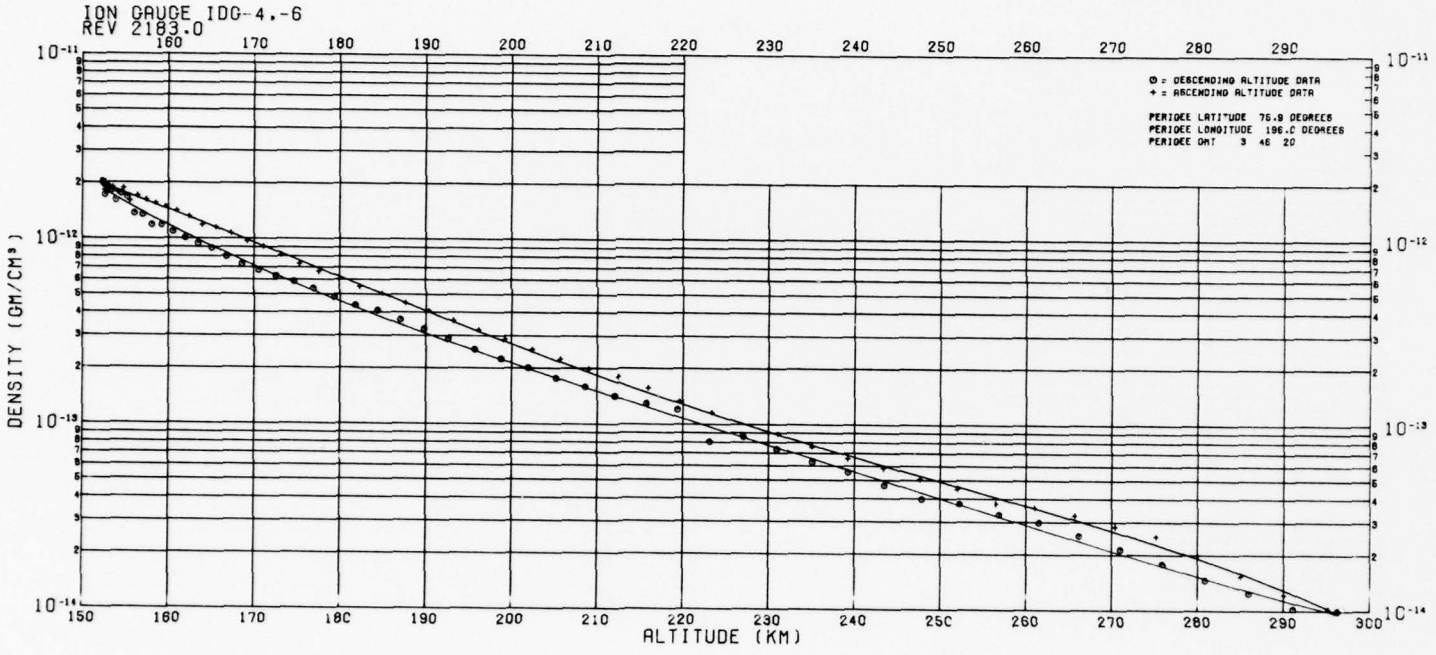
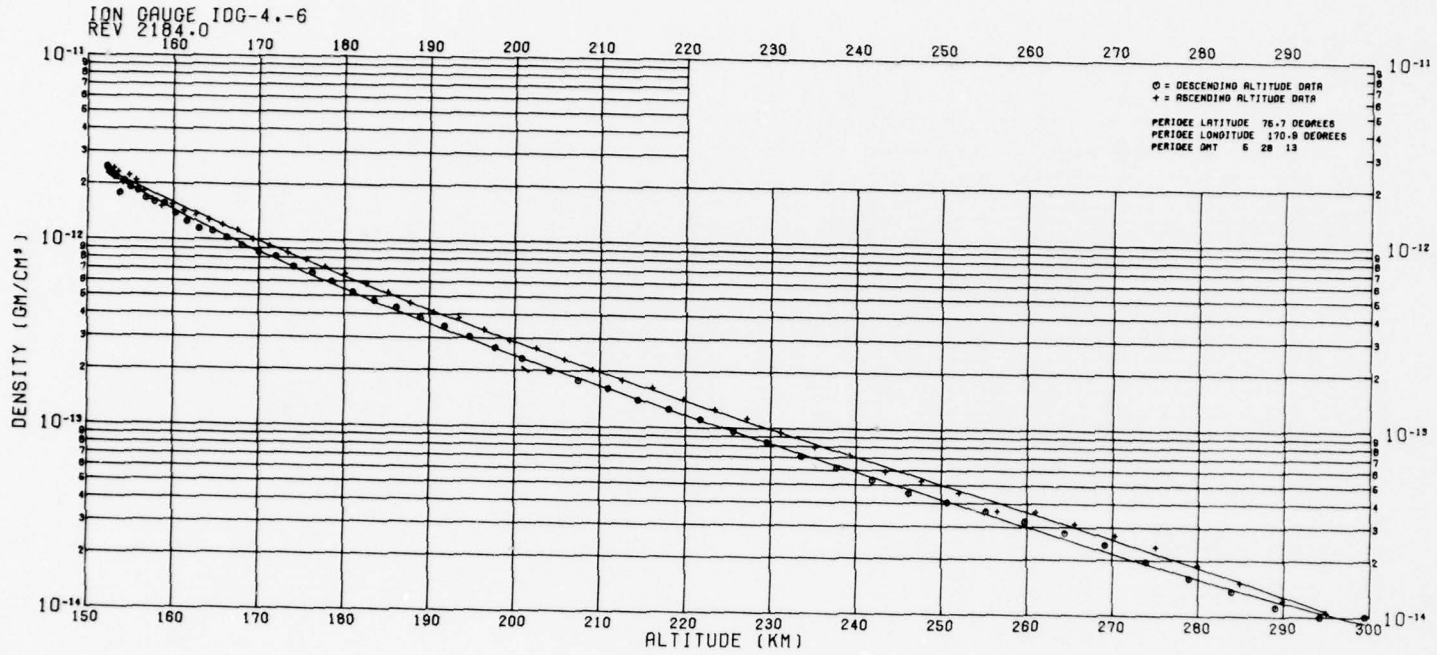
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴


ION GAUGE IDG-4,-6
REV 2183.0
Ø = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 75.9 DEGREES
PERIGEE LONGITUDE 196.0 DEGREES
PERIGEE DAY 3 46 20
DENSITY (GM/CM³)
ALTITUDE (KM)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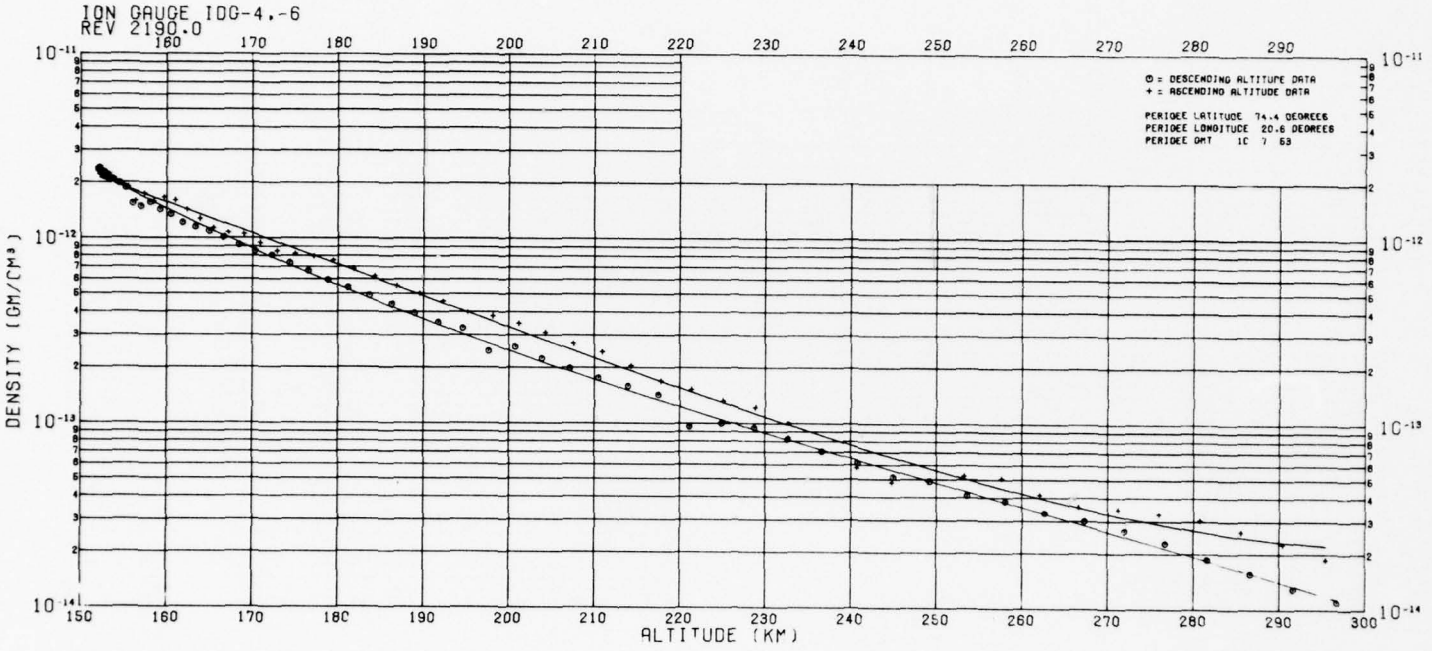
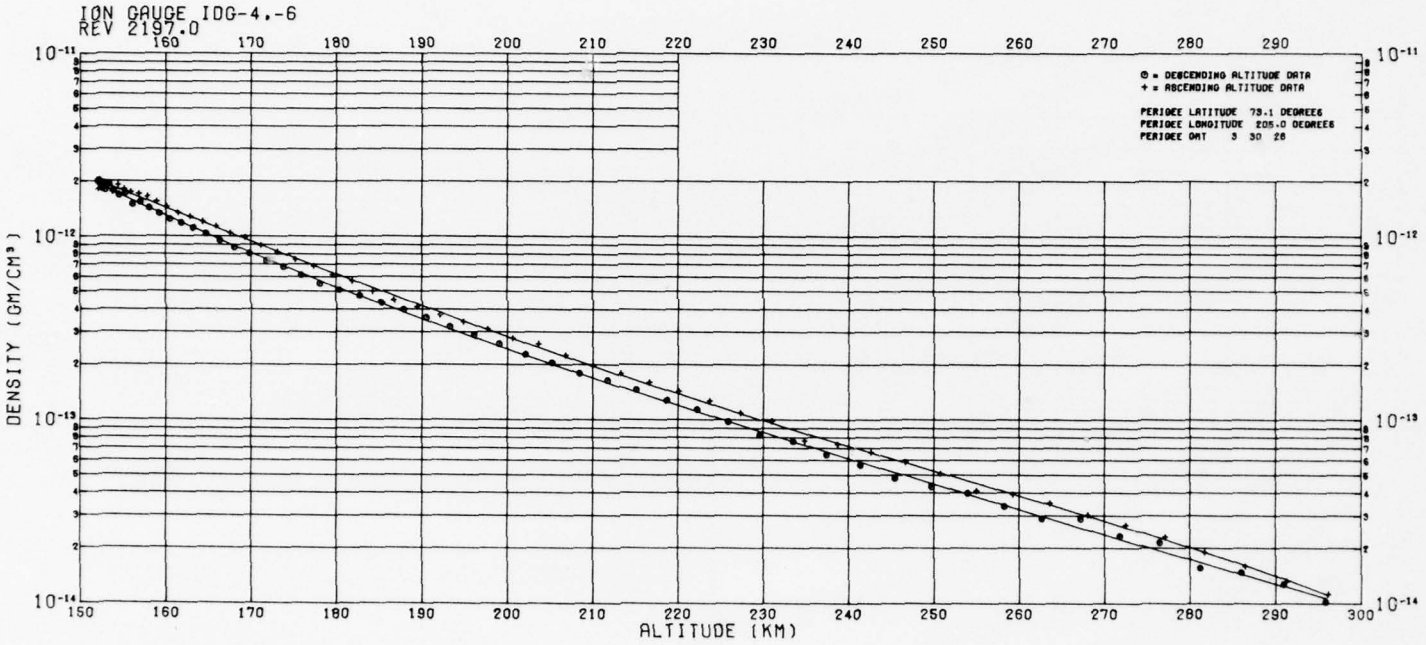
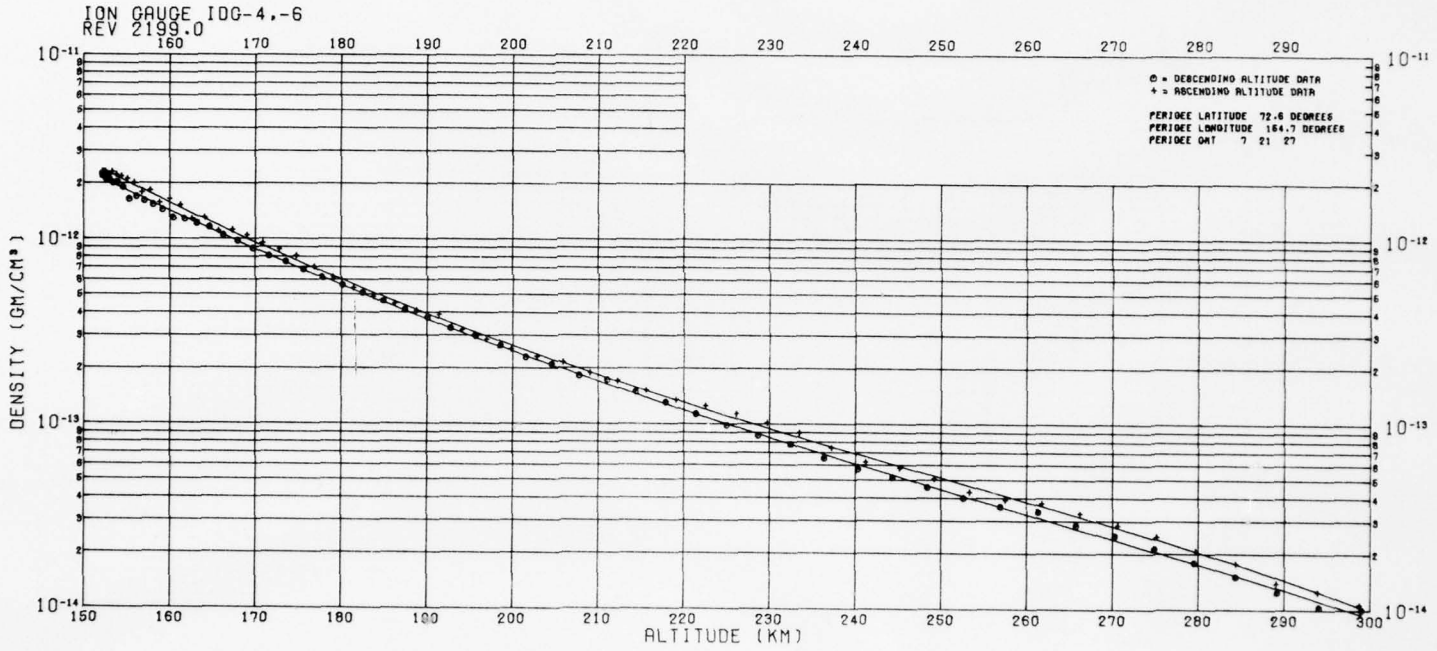
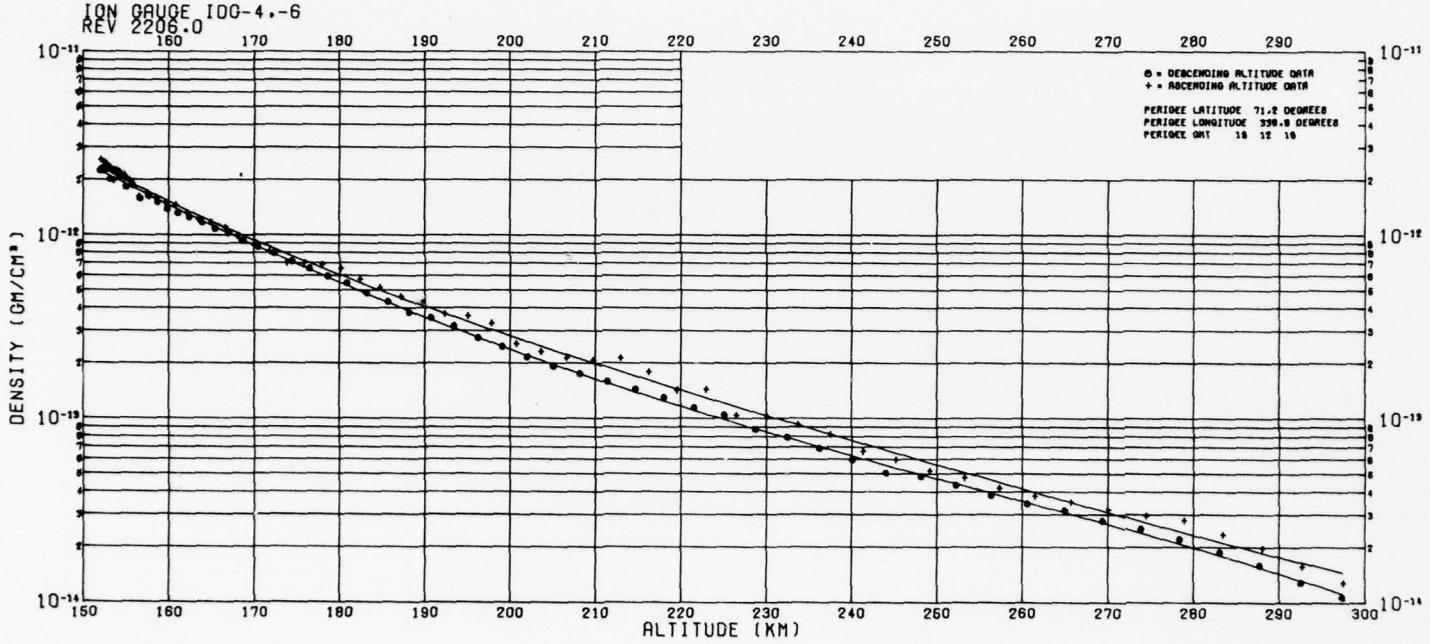
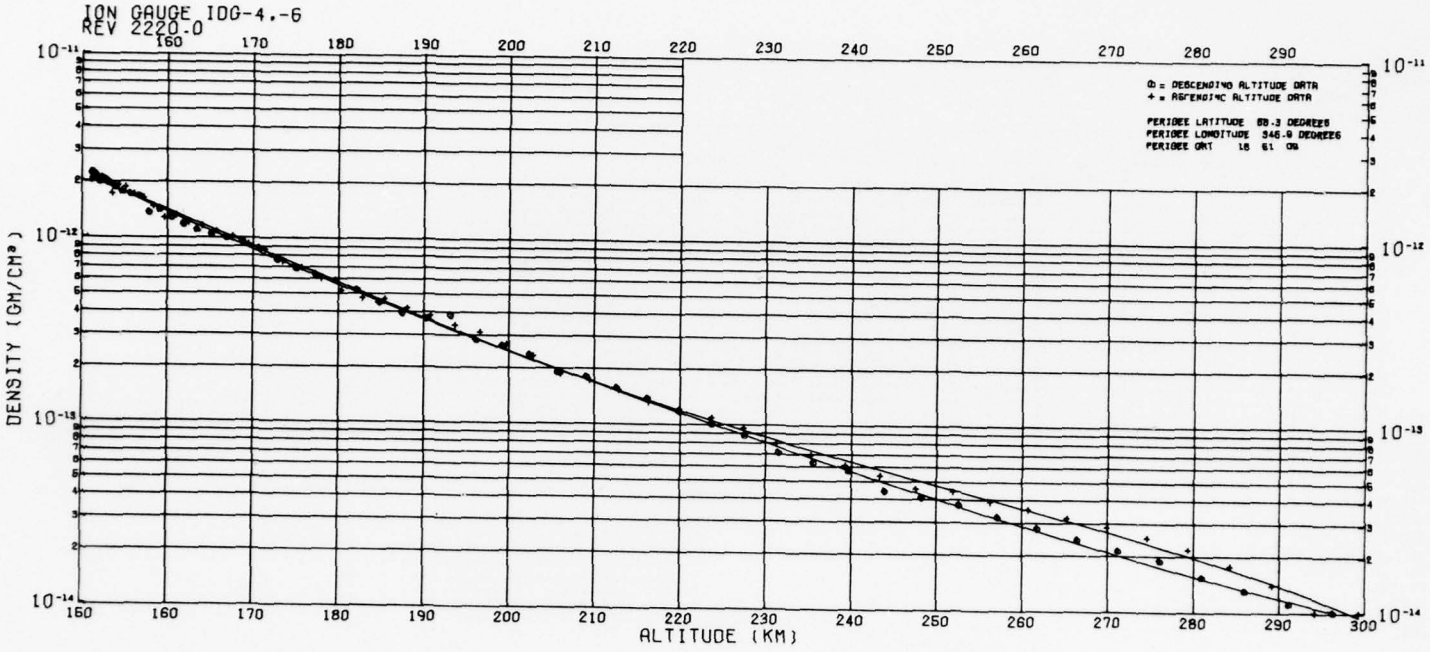
REV 2184.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 76.7 DEGREES
PERIGEE LONGITUDE 170.9 DEGREES
PERIGEE GMT 5 28 13
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

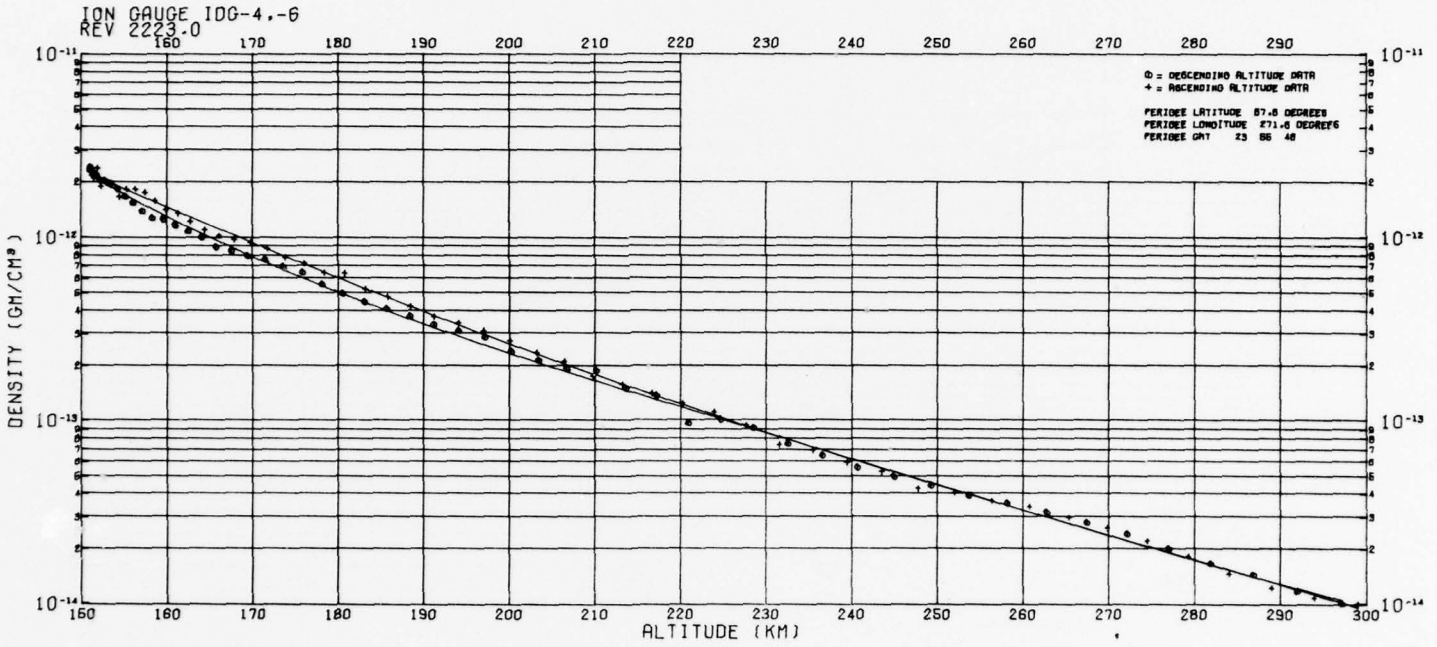

ION GAUGE IDG-4,-6
REV 2190.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 74.4 DEGREES
PERIGEE LONGITUDE 20.6 DEGREES
PERIGEE GMT 10 7 63
DENSITY (GM/CM³)
ALTITUDE (KM)

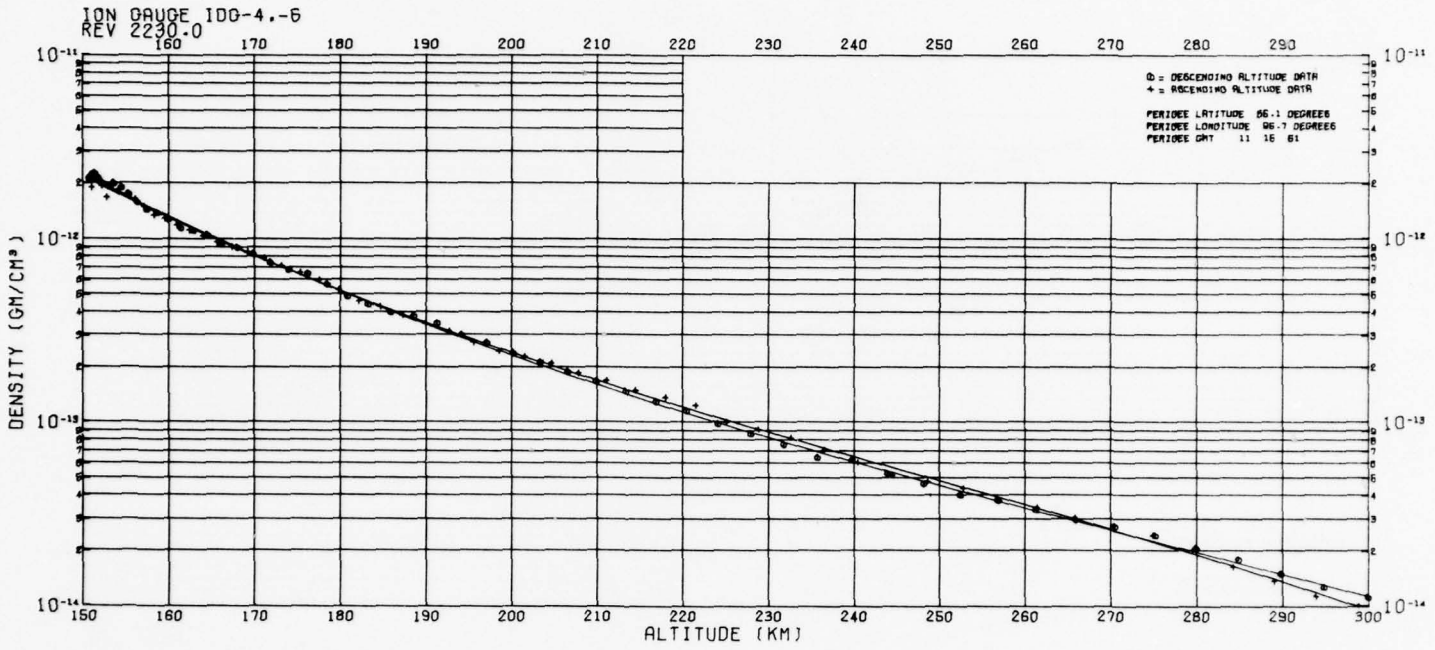

ION GAUGE IDG-4,-6
REV 2197.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 79.1 DEGREES
PERIGEE LONGITUDE 205.0 DEGREES
PERIGEE GMT 3 30 26
DENSITY (GM/CM³)
ALTITUDE (KM)
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴

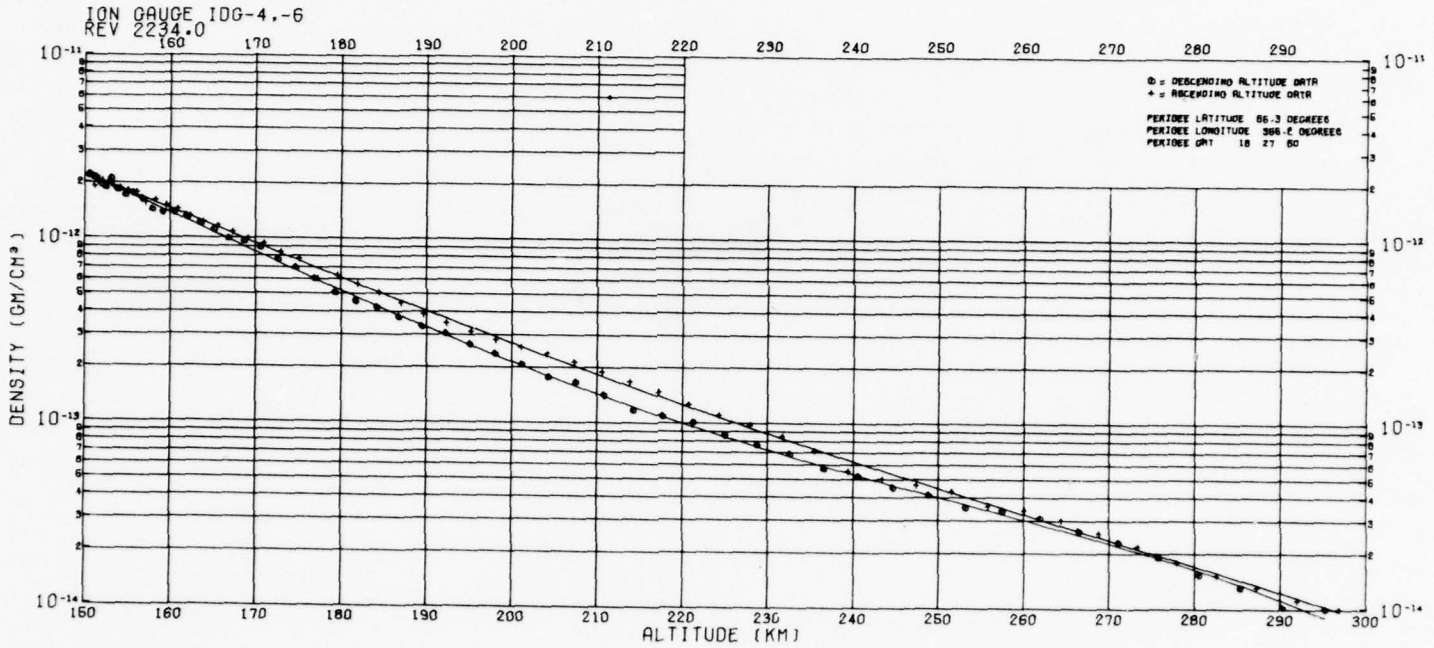

ION GAUGE IDG-4,-6
REV 2199.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 72.6 DEGREES
PERIGEE LONGITUDE 164.7 DEGREES
PERIGEE GMT 7 21 27
DENSITY (GM/CM³)
ALTITUDE (KM)

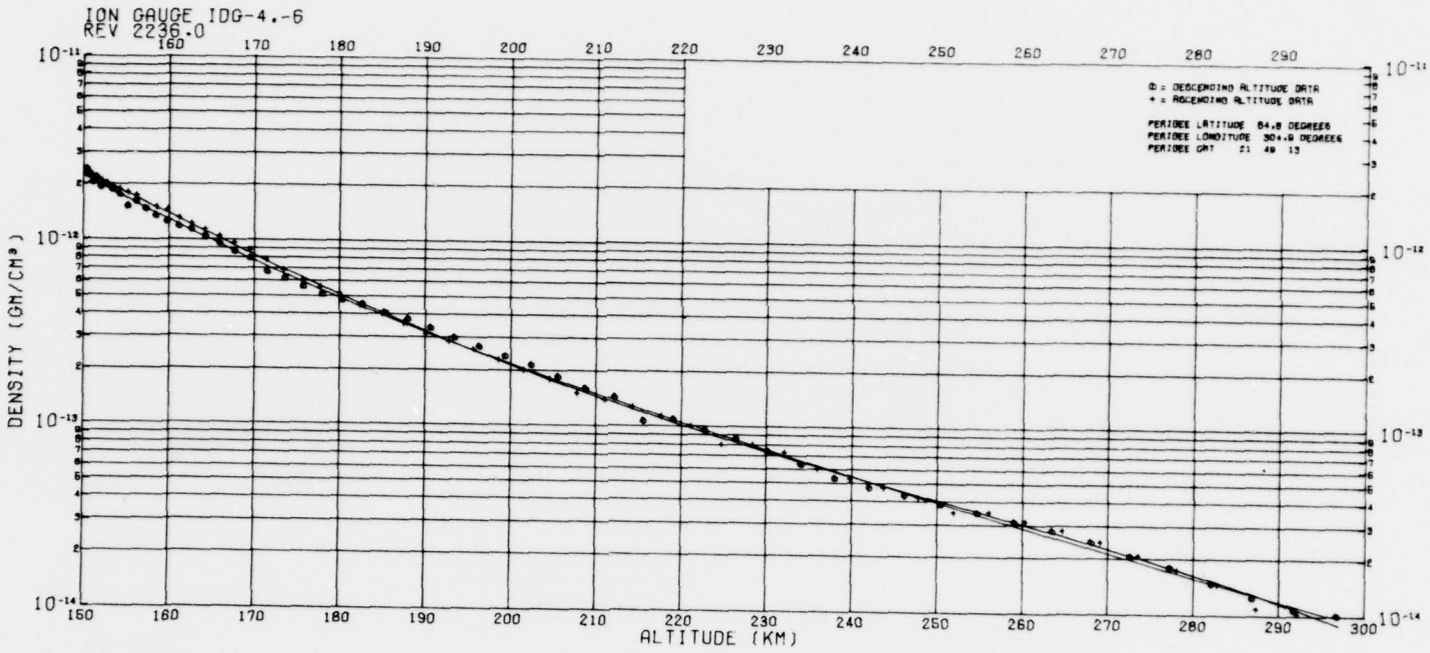

ION GAUGE IOG-4,-6
REV 2206.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 71.2 DEGREES
PERIGEE LONGITUDE 330.8 DEGREES
PERIGEE GMT 18 12 18

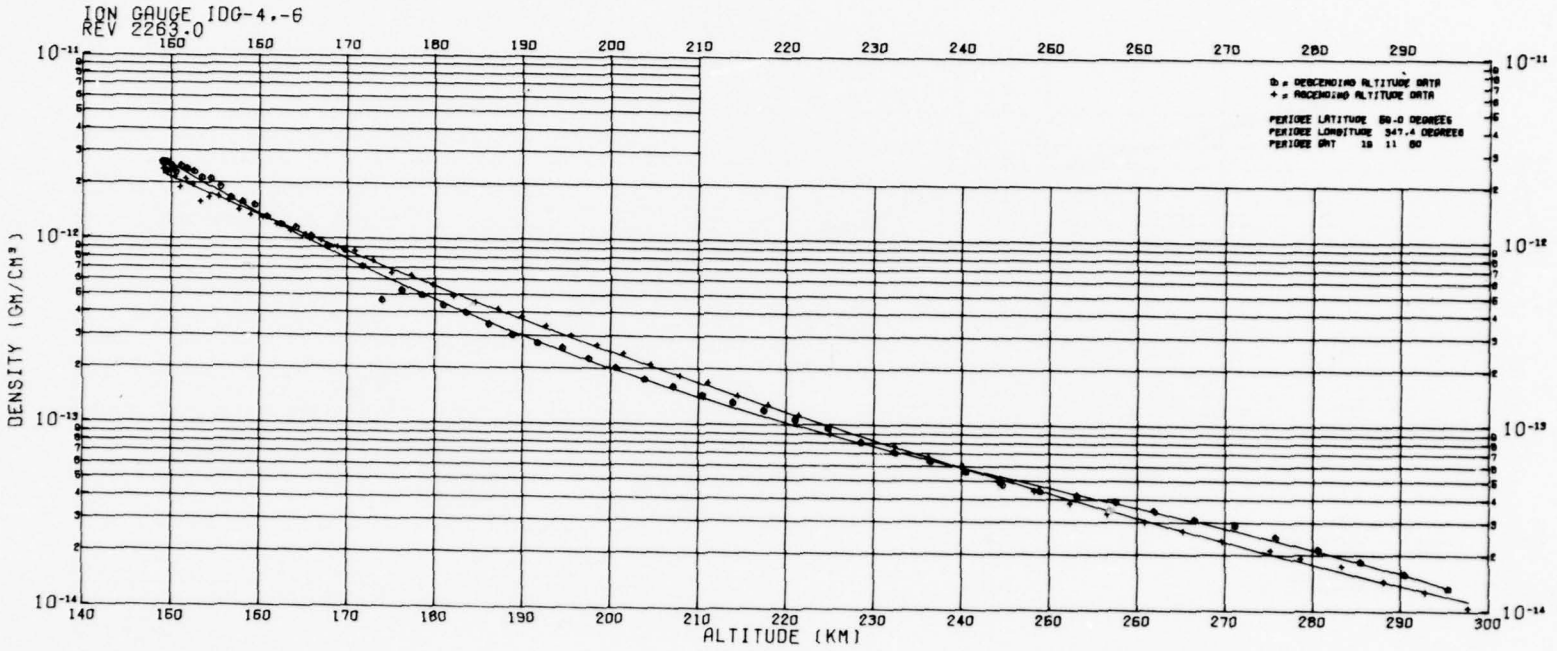

ION GAUGE IDG-4,-6
REV 2220.0
DENSITY (GM/CM³)
ALTITUDE (KM)
O = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 68.3 DEGREES
PERIGEE LONGITUDE 346.9 DEGREES
PERIGEE GMT 18 51 08

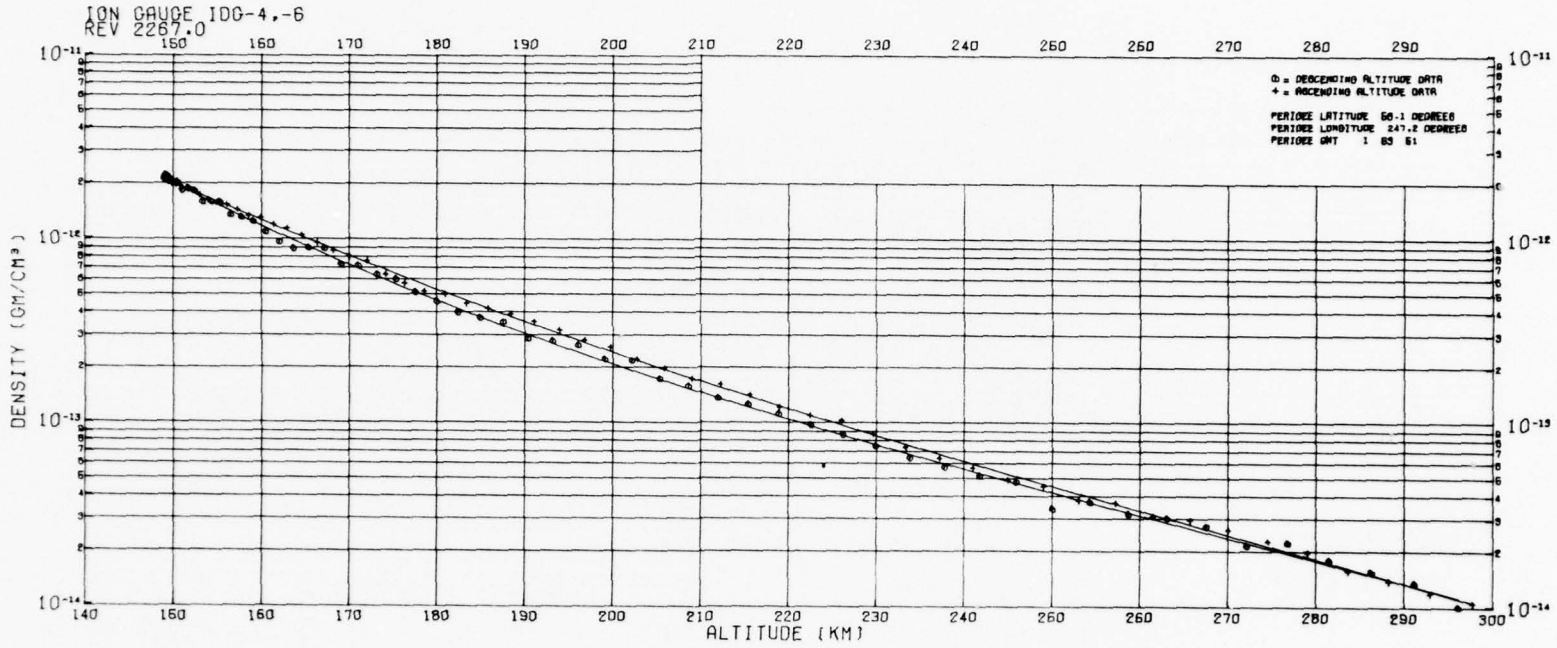

ION GAUGE IDG-4,-6
REV 2223.0
Φ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 87.6 DEGREES
PERIGEE LONGITUDE 271.6 DEGREES
PERIGEE GMT 23 56 48
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

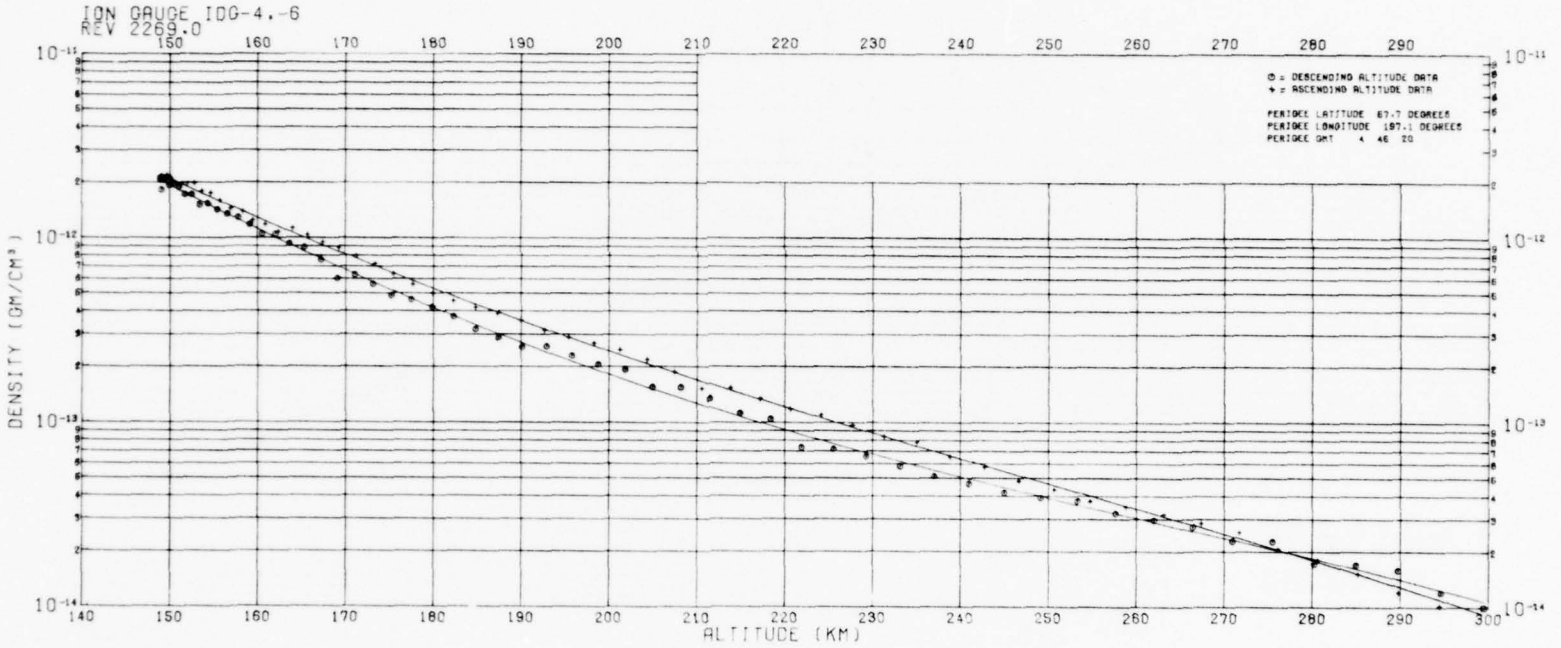

ION GAUGE IDG-4.-6
REV 2230.0
D = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 86.1 DEGREES
PERIGEE LONGITUDE 96.7 DEGREES
PERIGEE GMT 11 16 61
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

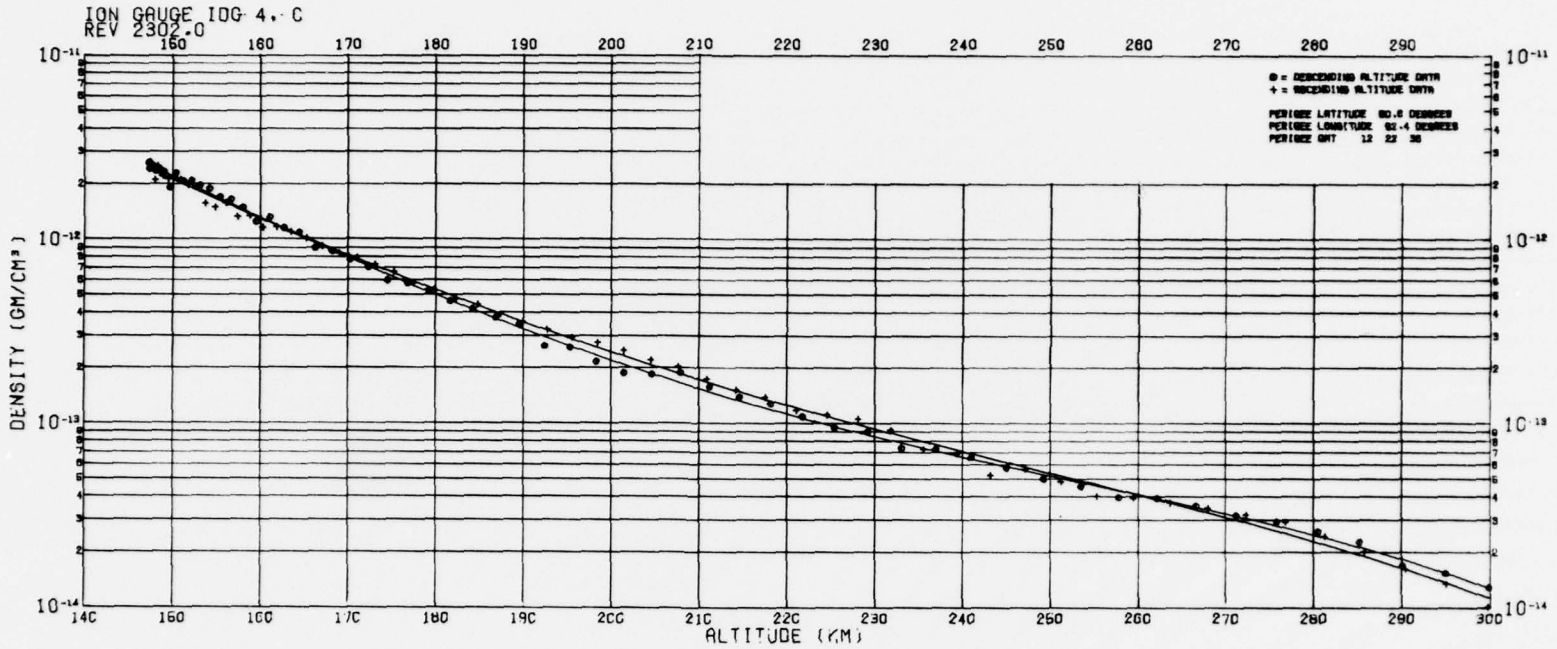

ION GAUGE IDG-4,-6
REV 2234.0
Ø = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 66.3 DEGREES
PERIGEE LONGITUDE 366.6 DEGREES
PERIGEE GMT 18 27 50
DENSITY (GM/CM³)
ALTITUDE (KM)

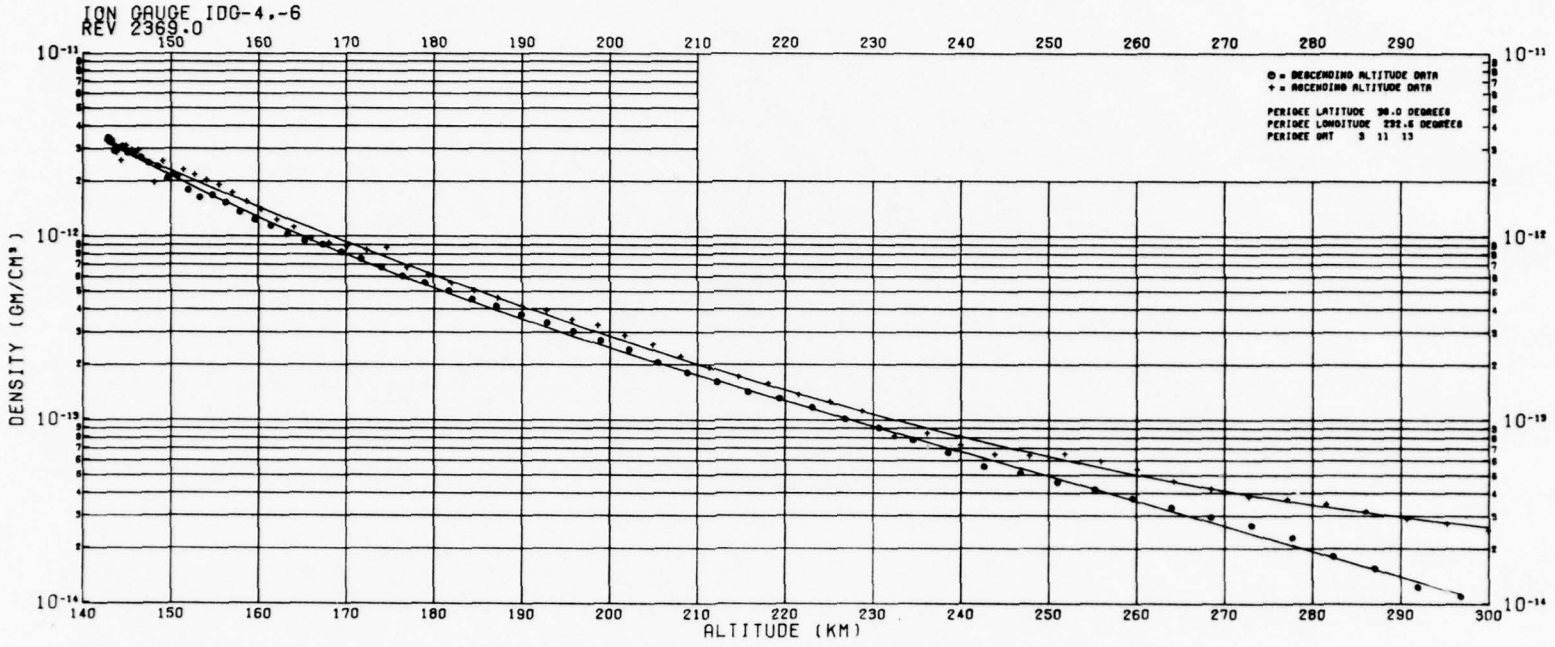

ION GAUGE IDG-4.-6
REV 2236.0
DENSITY (GM/CM³)
ALTITUDE (KM)
Φ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 64.8 DEGREES
PERIGEE LONGITUDE 304.8 DEGREES
PERIGEE GMT 21 49 13

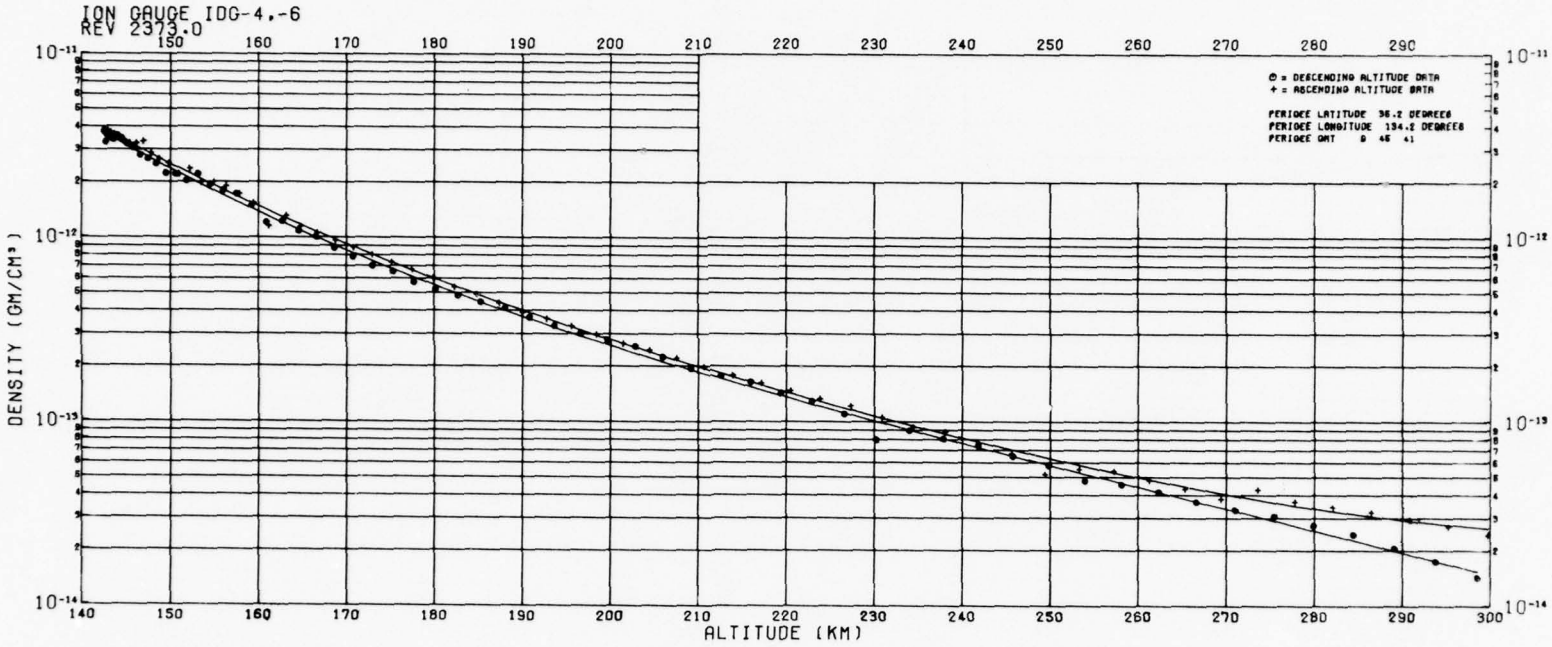

ION GAUGE IDG-4,-6
REV 2263.0
DENSITY (GM/CM³)
ALTITUDE (KM)
D = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 69.0 DEGREES
PERIGEE LONGITUDE 347.4 DEGREES
PERIGEE GMT 15 11 00

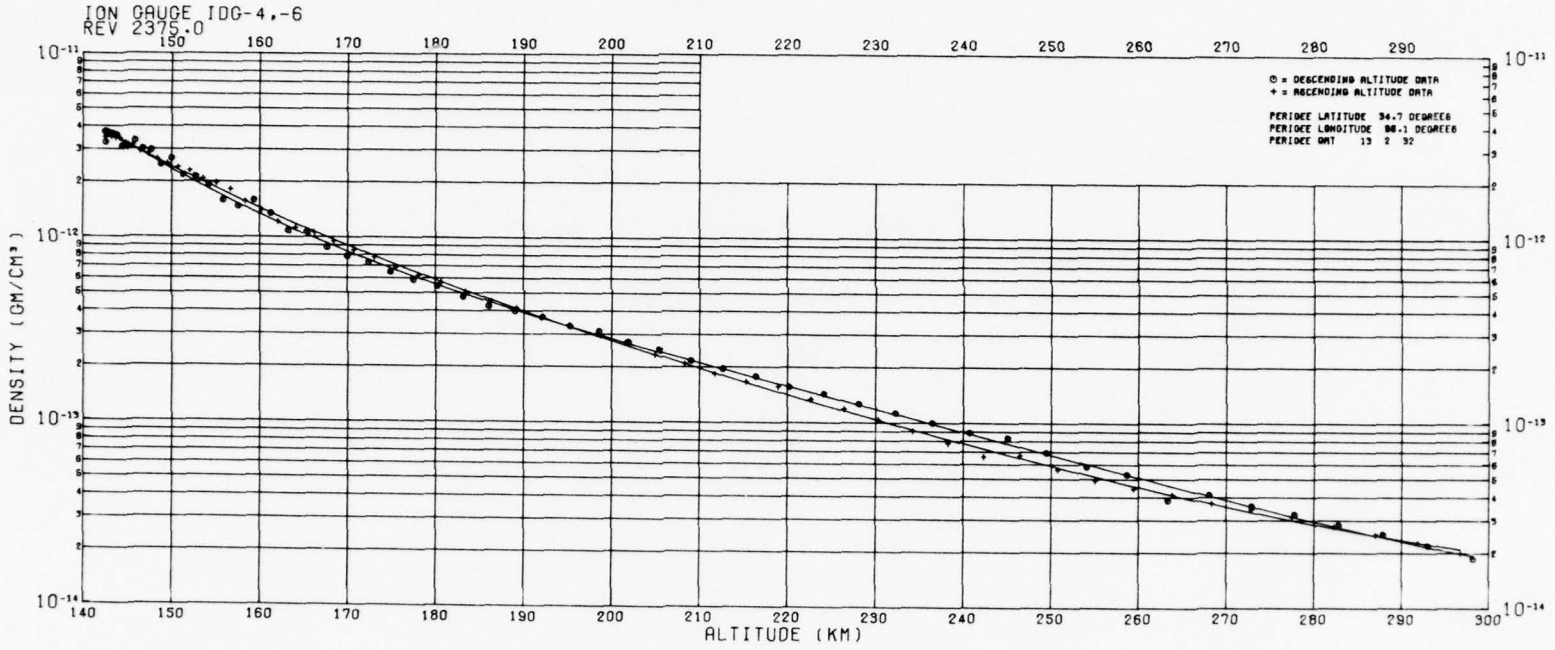

ION GAUGE IDG-4,-6
REV 2267.0
DENSITY (GM/CM³)
ALTITUDE (KM)
O = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 58.1 DEGREES
PERIGEE LONGITUDE 247.2 DEGREES
PERIGEE GMT 1 83 61

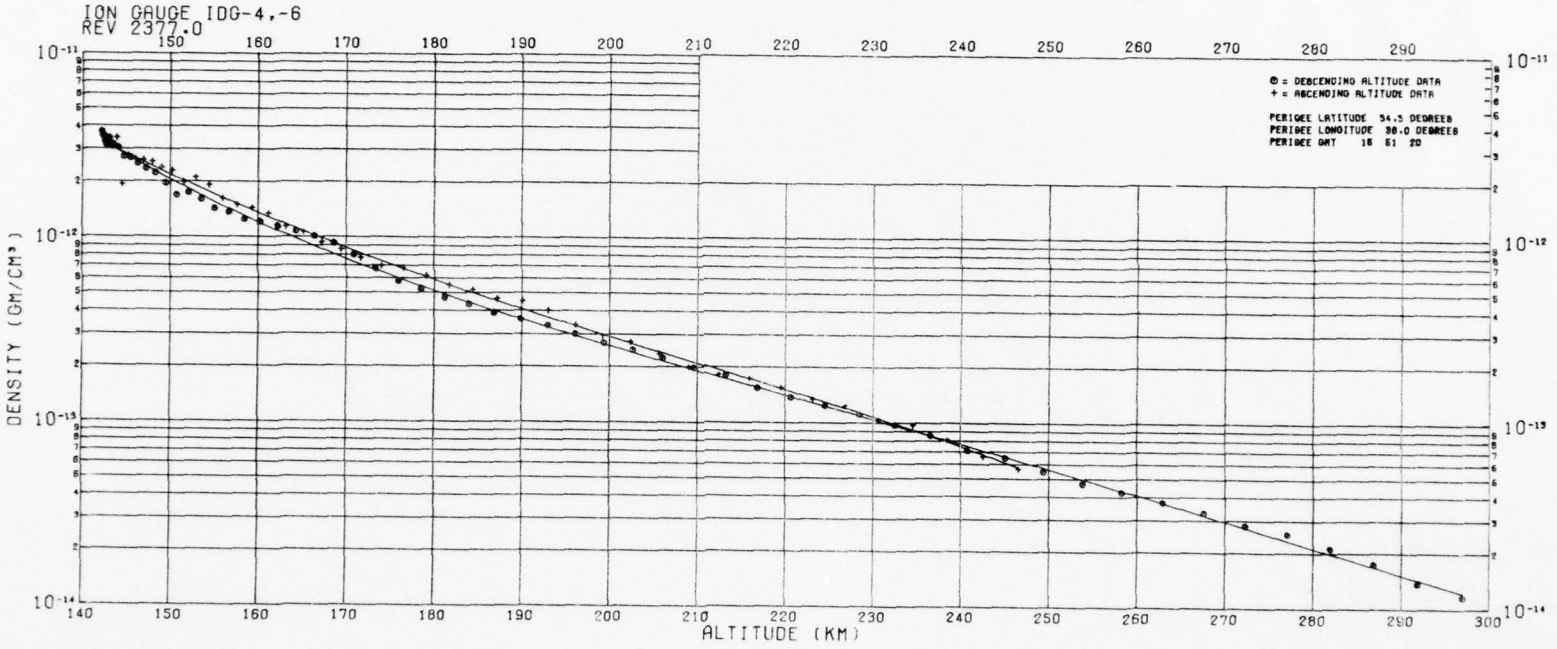

ION GAUGE IDG-4,-6
REV 2269.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 67.7 DEGREES
PERIGEE LONGITUDE 197.1 DEGREES
PERIGEE GMT 4 46 20
DENSITY (GM/CM³)
ALTITUDE (KM)
140
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴

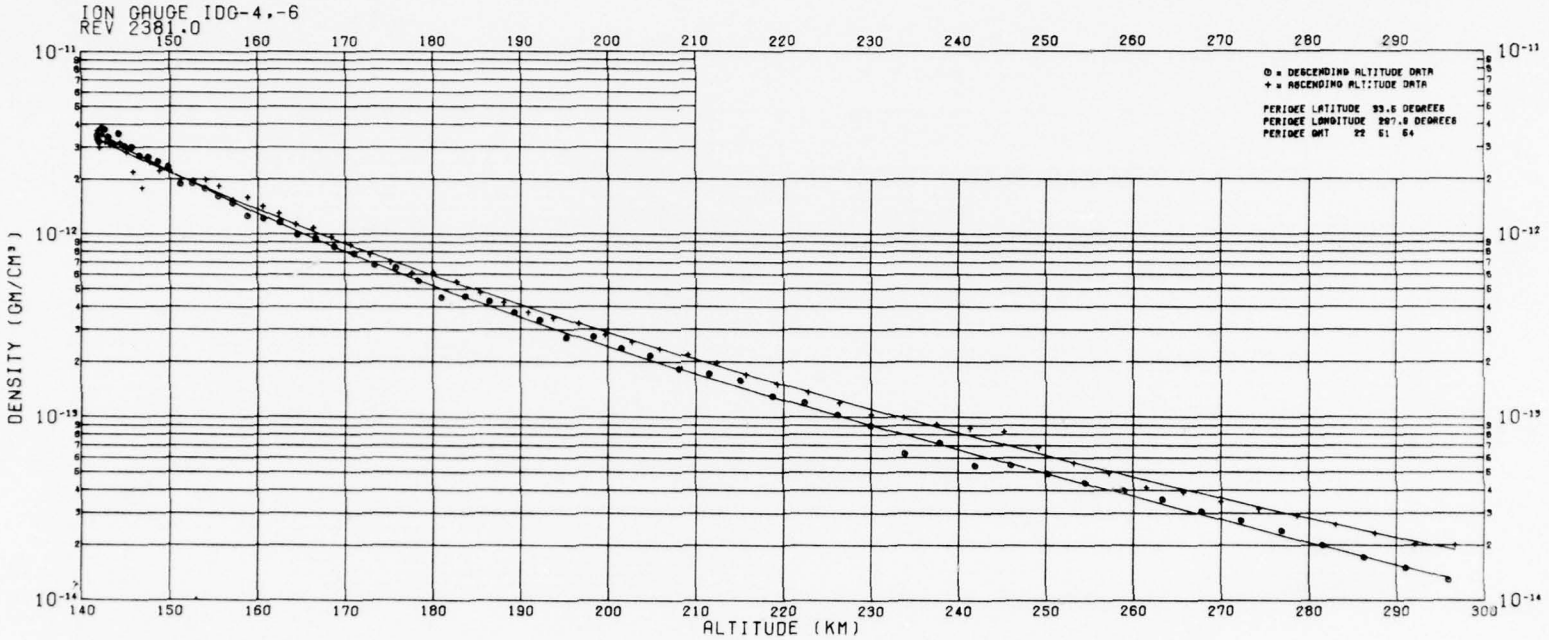

ION GAUGE IDG 4, C
REV 2302.0
DENSITY (GM/CM³)
ALTITUDE (KM)
140
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 80.8 DEGREES
PERIGEE LONGITUDE 92.4 DEGREES
PERIGEE GMT 12 22 36

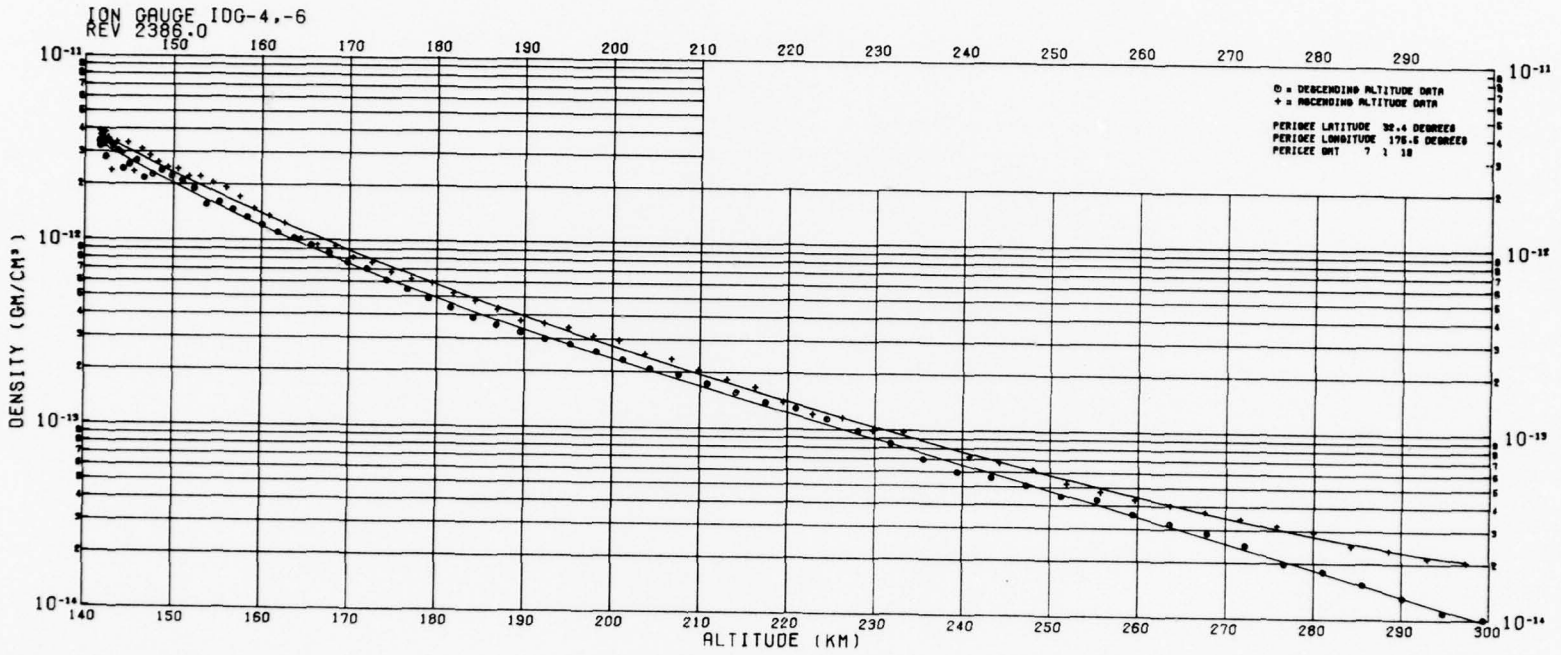

ION GAUGE IDG-4,-6
REV 2369.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 30.0 DEGREES
PERIGEE LONGITUDE 232.6 DEGREES
PERIGEE GMT 3 11 13
DENSITY (GM/CM³)
ALTITUDE (KM)

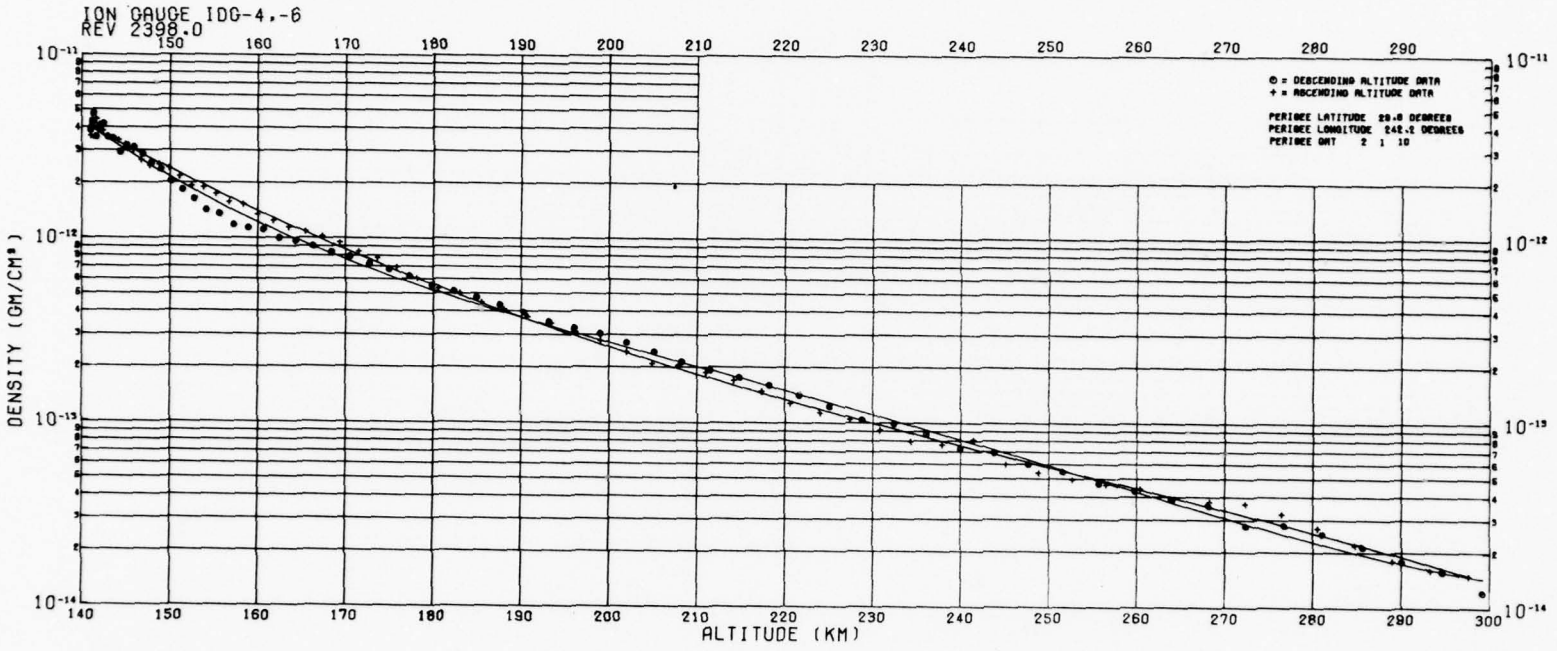

ION GAUGE IDG-4,-6
REV 2373.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 36.2 DEGREES
PERIGEE LONGITUDE 134.2 DEGREES
PERIGEE GMT 0 45 41
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
140
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

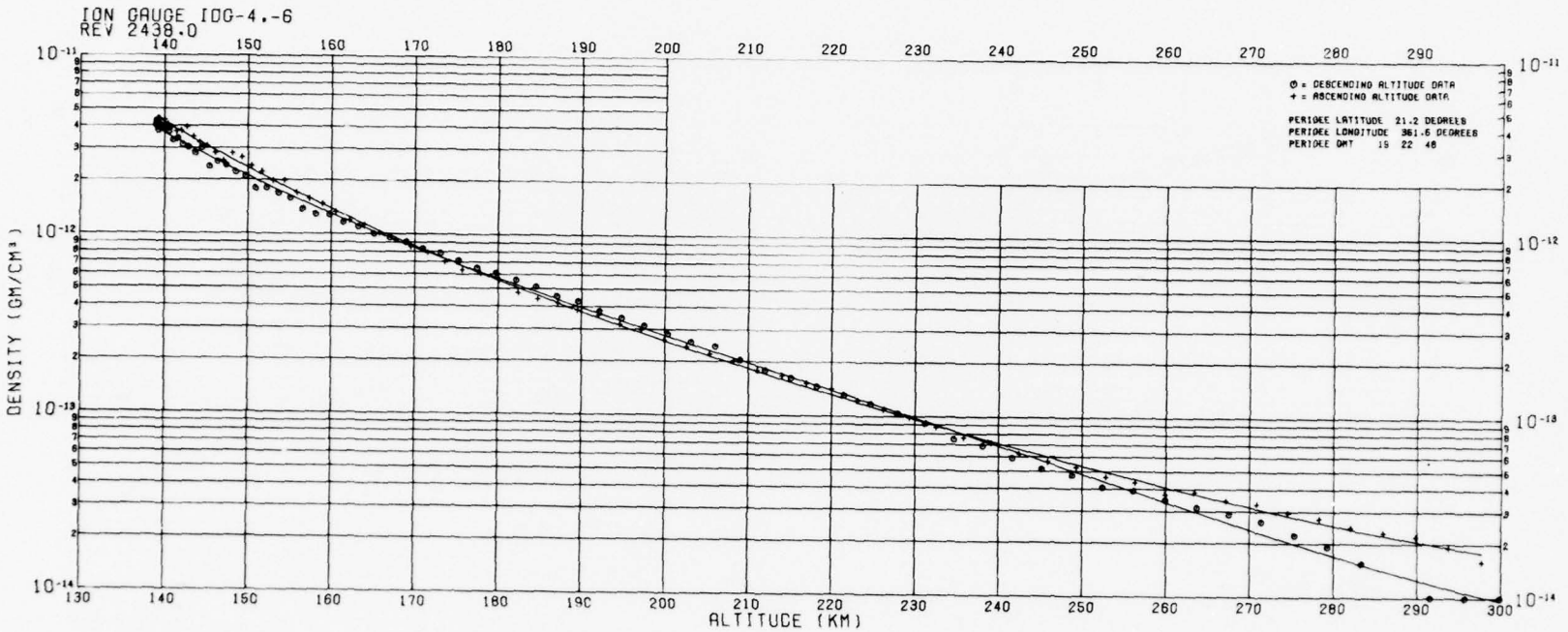

ION GAUGE IDG-4,-6
REV 2375.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 34.7 DEGREES
PERIGEE LONGITUDE 98.1 DEGREES
PERIGEE GMT 13 2 32
DENSITY (GM/CM³)
ALTITUDE (KM)

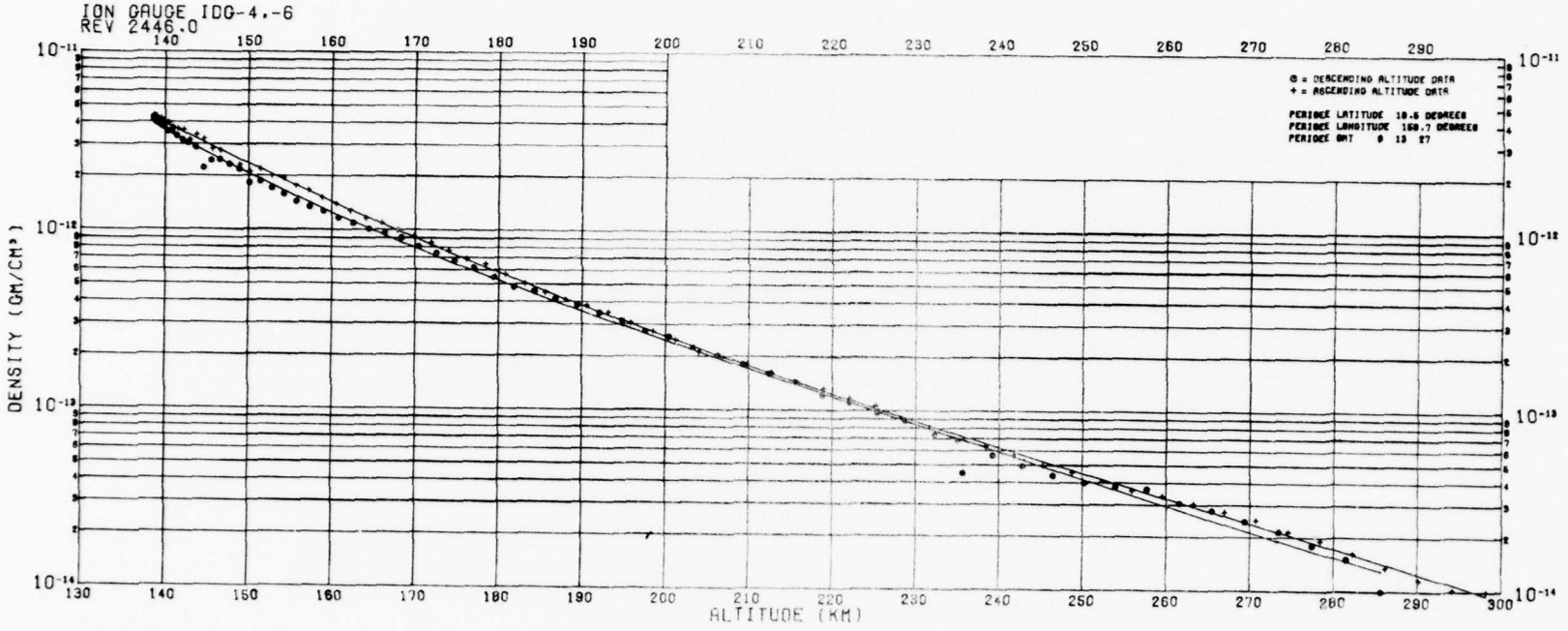

ION GAUGE IDG-4,-6
REV 2377.0
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 54.3 DEGREES
PERIGEE LONGITUDE 38.0 DEGREES
PERIGEE GMT 15 51 20
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
140
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

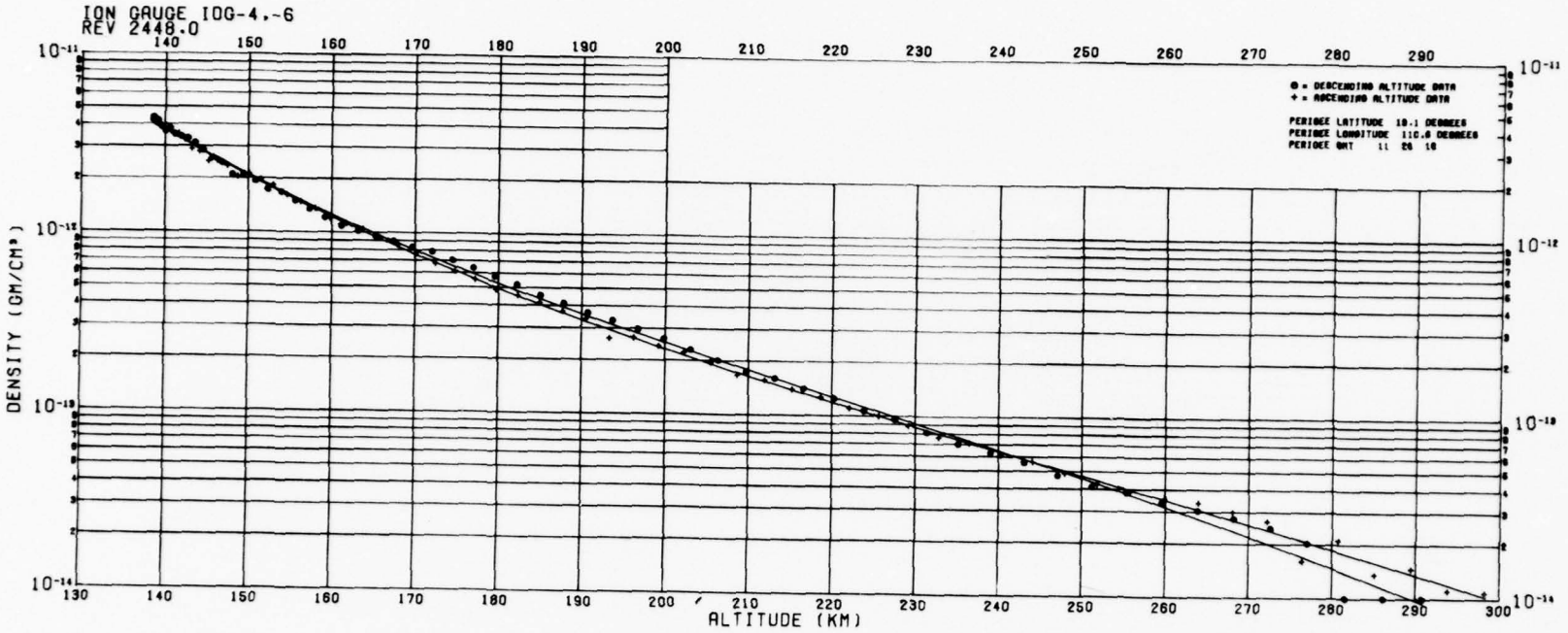

ION GAUGE IDG-4,-6
REV 2381.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 93.6 DEGREES
PERIGEE LONGITUDE 287.8 DEGREES
PERIGEE GMT 22 51 54
DENSITY (GM/CM³)
ALTITUDE (KM)

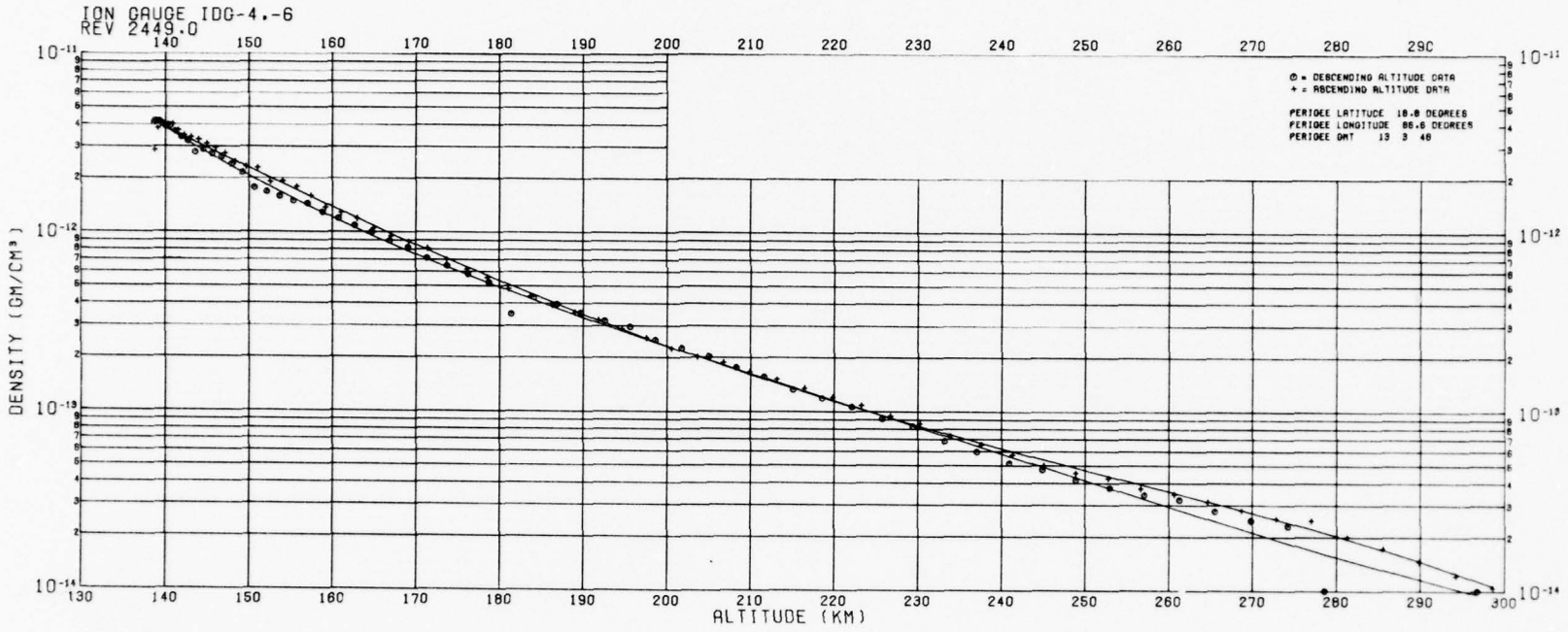

ION GAUGE IDG-4,-6
REV 2386.0
DENSITY (GM/CM³)
ALTITUDE (KM)
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 32.4 DEGREES
PERIGEE LONGITUDE 176.5 DEGREES
PERIGEE GMT 7 1 18

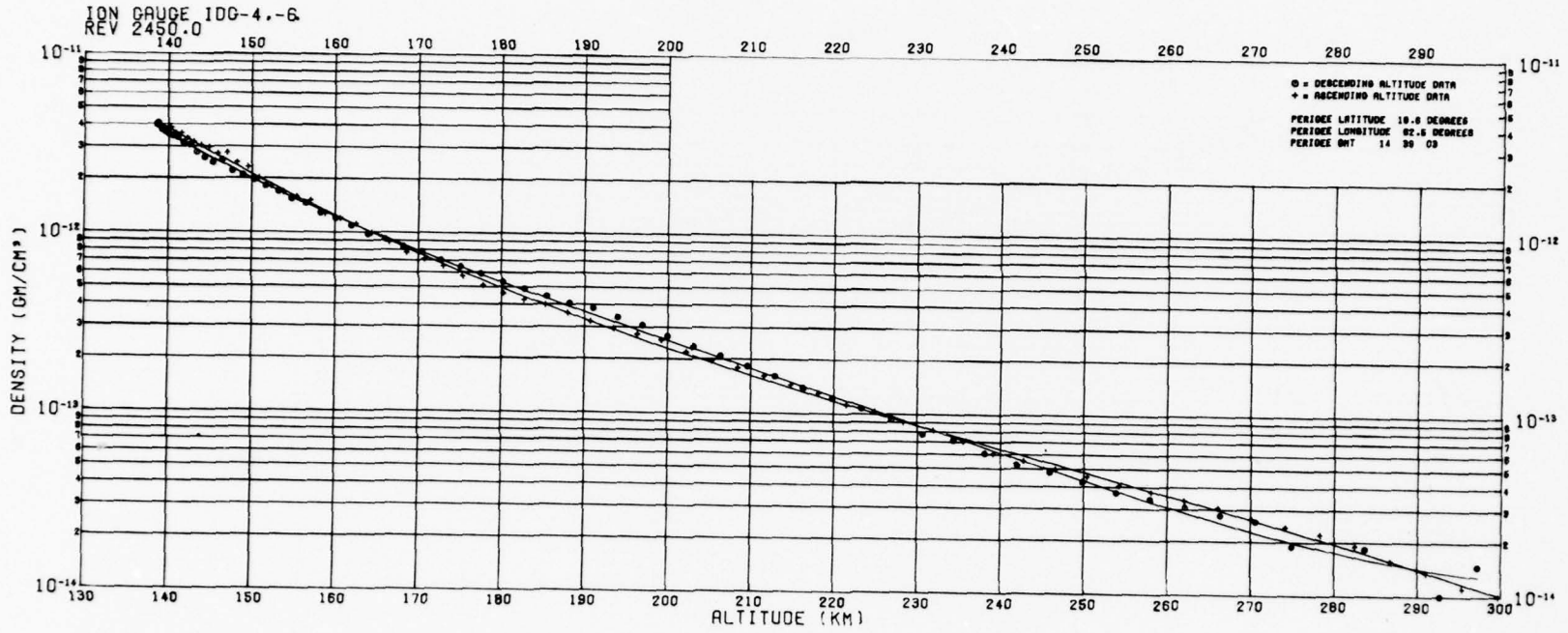

ION GAUGE IDG-4,-6
REV 2398.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 28.8 DEGREES
PERIGEE LONGITUDE 248.2 DEGREES
PERIGEE GMT 2 1 10
DENSITY (GM/CM³)
ALTITUDE (KM)
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
140
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300

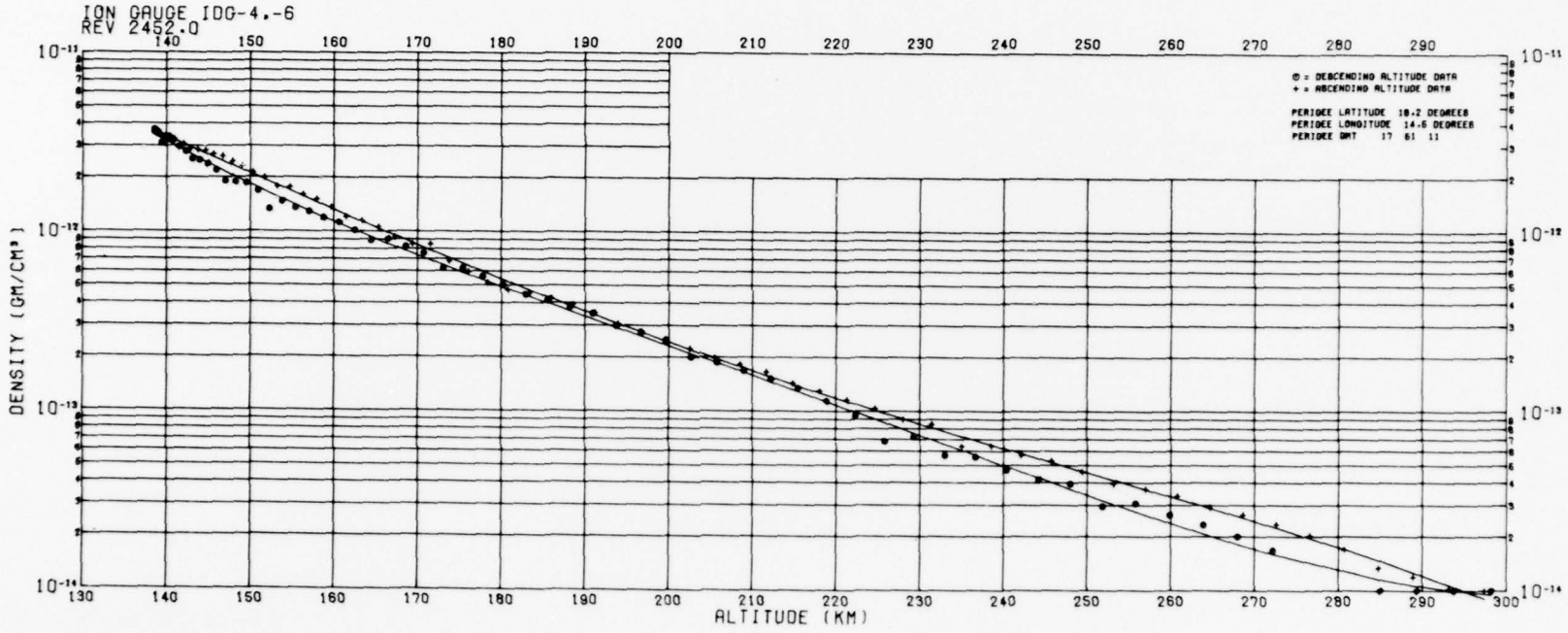

ION GAUGE IDG-4.-6
REV 2438.0
Ø = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 21.2 DEGREES
PERIGEE LONGITUDE 361.6 DEGREES
PERIGEE GMT 15 22 48
DENSITY (GM/CM³)
ALTITUDE (KM)

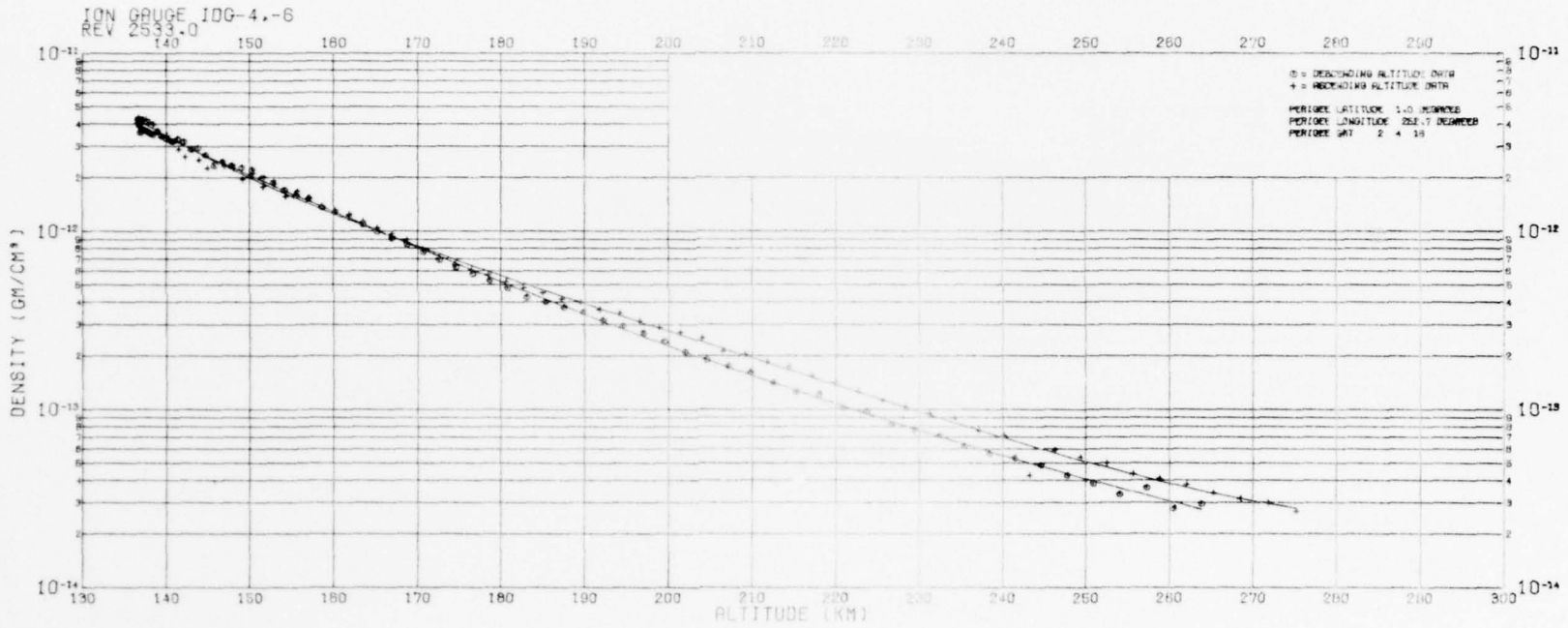

ION GAUGE IDG-4,-6
REV 2446.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 18.6 DEGREES
PERIGEE LONGITUDE 168.7 DEGREES
PERIGEE GMT 0 13 27
DENSITY (GM/CM³)
ALTITUDE (KM)

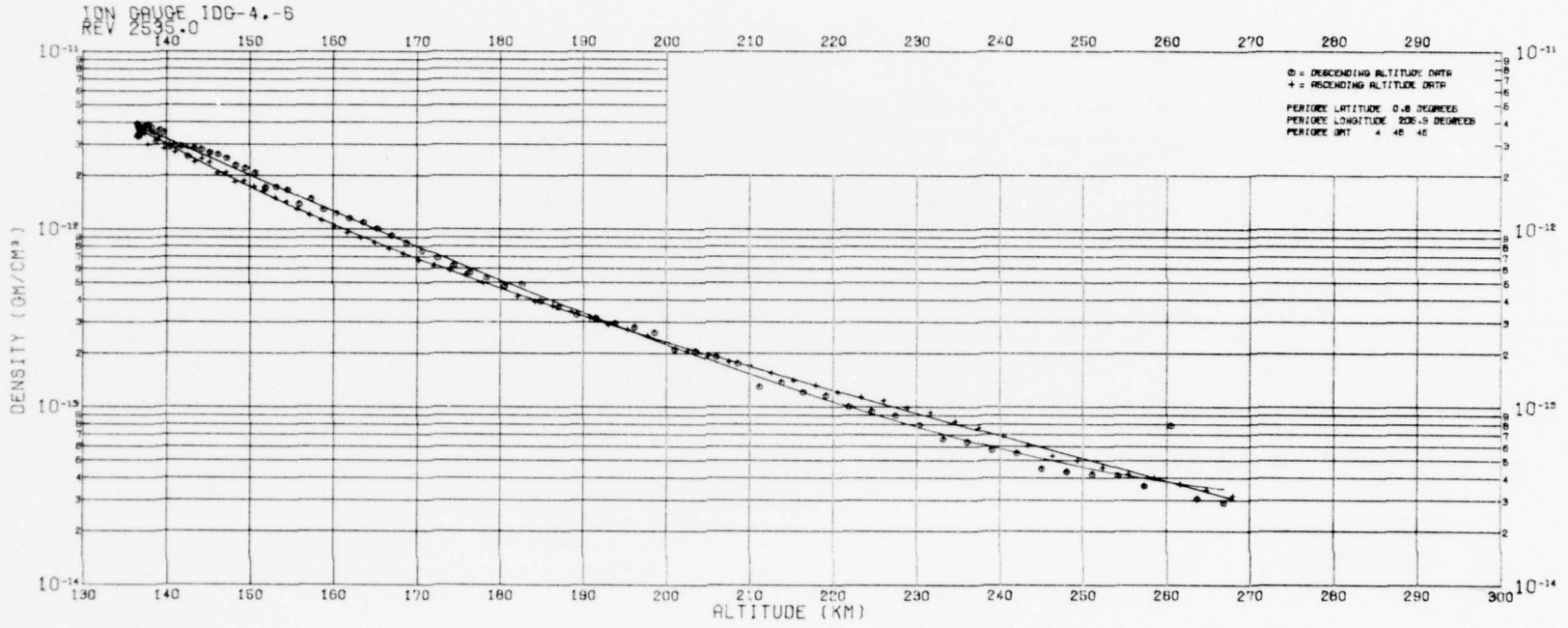

ION GAUGE IOG-4,-6
REV 2448.0
DENSITY (GM/CM³)
ALTITUDE (KM)
130
140
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 19.1 DEGREES
PERIGEE LONGITUDE 110.6 DEGREES
PERIGEE GMT 11 26 16

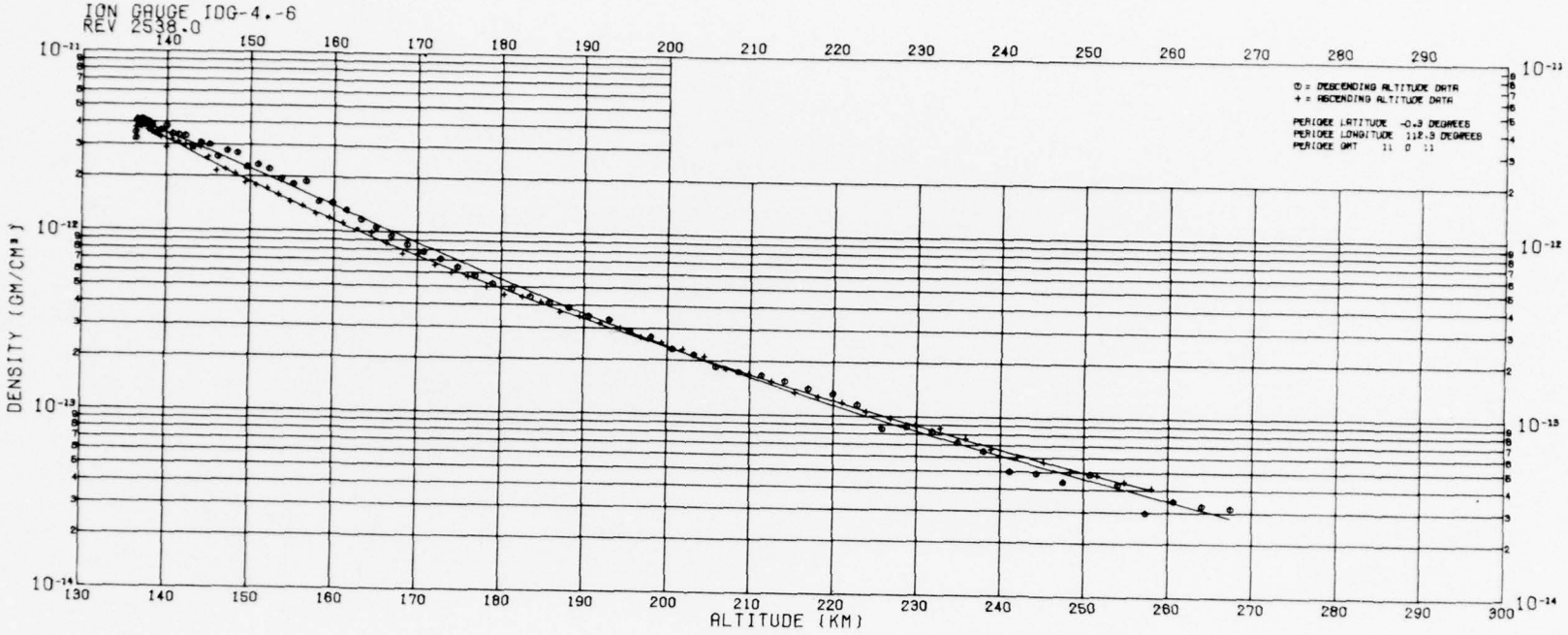

ION GAUGE IDG-4.-6
REV 2449.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 18.8 DEGREES
PERIGEE LONGITUDE 86.6 DEGREES
PERIGEE GMT 13 3 40

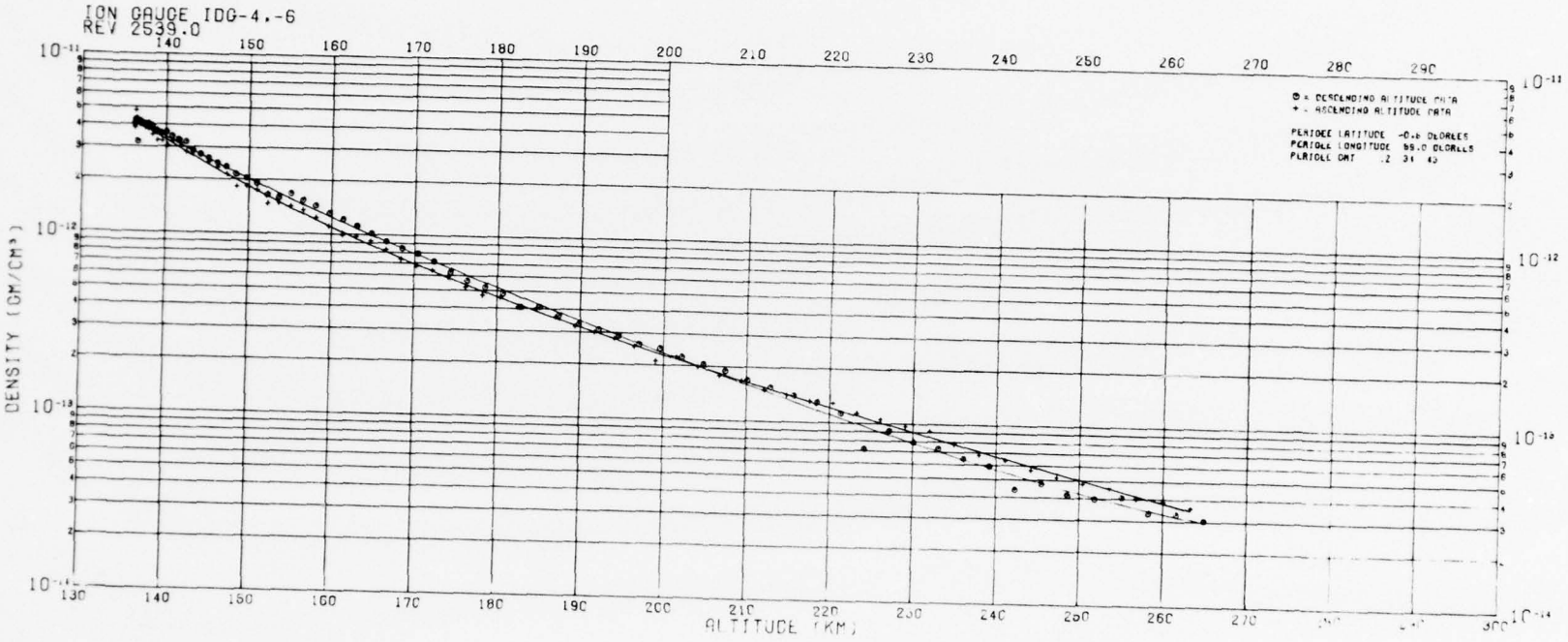

ION GAUGE IDG-4,-6
REV 2450.0
DENSITY (GM/CM³)
ALTITUDE (KM)
130
140
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 19.8 DEGREES
PERIGEE LONGITUDE 92.5 DEGREES
PERIGEE GMT 14 38 03

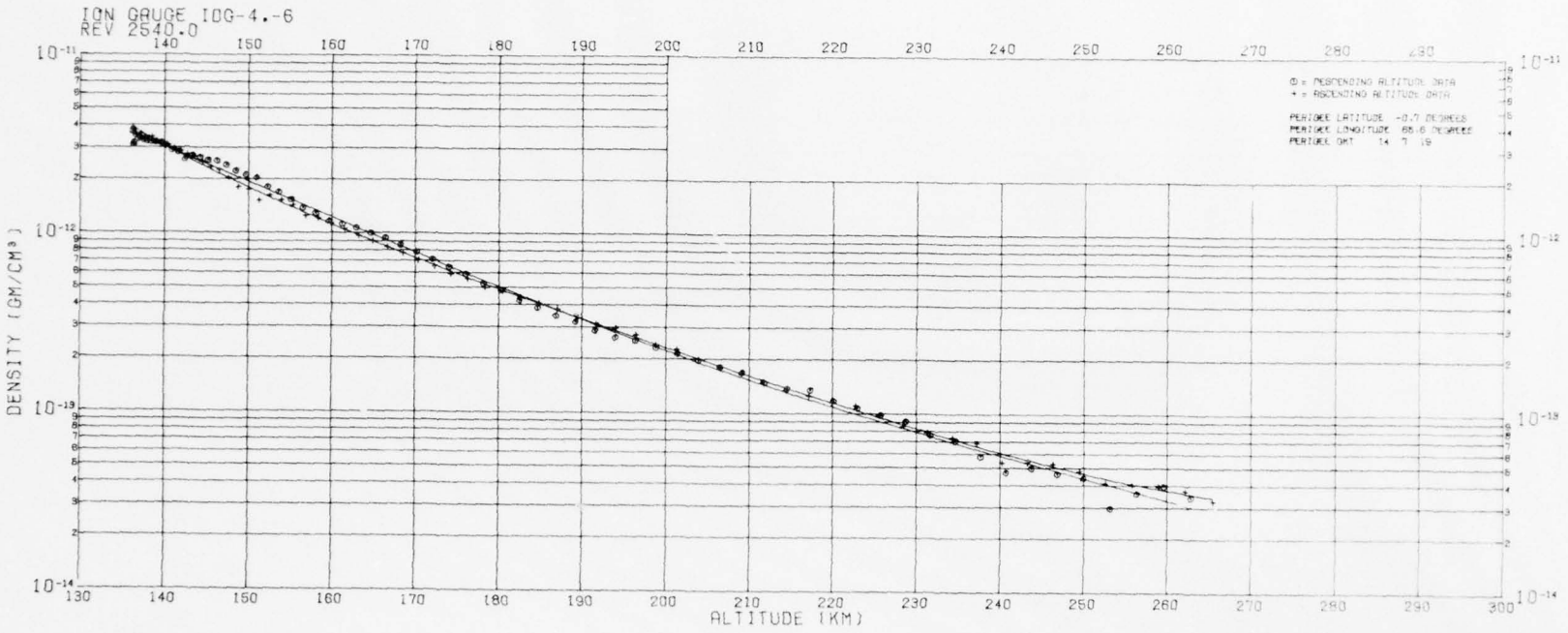

ION GAUGE IDG-4,-6
REV 2452.0
DENSITY (GM/CM³)
ALTITUDE (KM)
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 18.2 DEGREES
PERIGEE LONGITUDE 14.6 DEGREES
PERIGEE GMT 17 61 11


ION GAUGE IDG-4,-6
REV 2533.0
DENSITY (GM/CM³)
ALTITUDE (KM)
130
140
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 1.0 DEGREES
PERIGEE LONGITUDE 258.7 DEGREES
PERIGEE DAY 2 4 18


ION GAUGE IDG-4.-6
REV 2535.0
⊖ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE 0.8 DEGREES
PERIGEE LONGITUDE 206.9 DEGREES
PERIGEE GMT 4 48 45
DENSITY (GM/CM³)
ALTITUDE (KM)


ION GAUGE IDG-4.-6
REV 2538.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -0.3 DEGREES
PERIGEE LONGITUDE 112.9 DEGREES
PERIGEE GMT 11 0 11


ION GAUGE IDG-4,-6
REV 2539.0
DENSITY (GM/CM³)
ALTITUDE (KM)
130
140
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
* DESCENDING ALTITUDE DATA
+ ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -0.6 DEGREES
PERIGEE LONGITUDE 55.0 DEGREES
PERIGEE DAY 2 31 45


ION GAUGE IDG-4.-6
REV 2540.0
DENSITY (GM/CM³)
ALTITUDE (KM)
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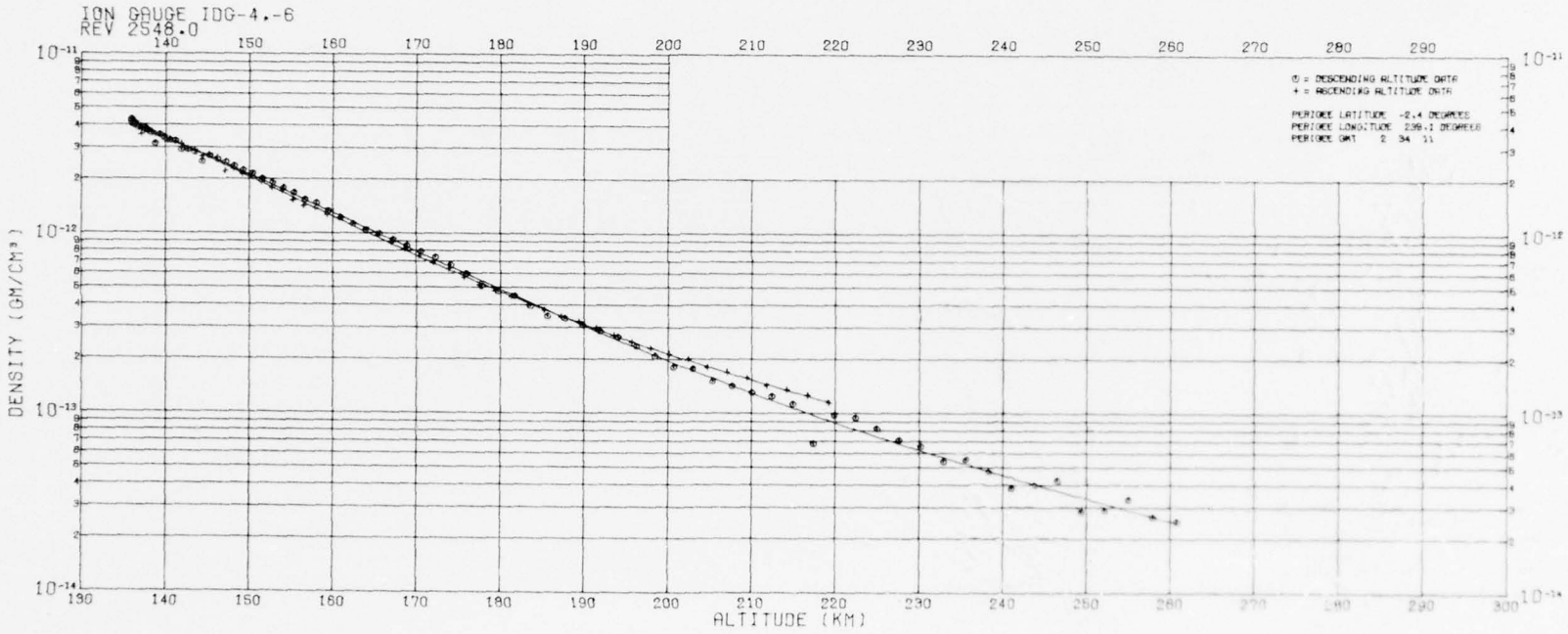
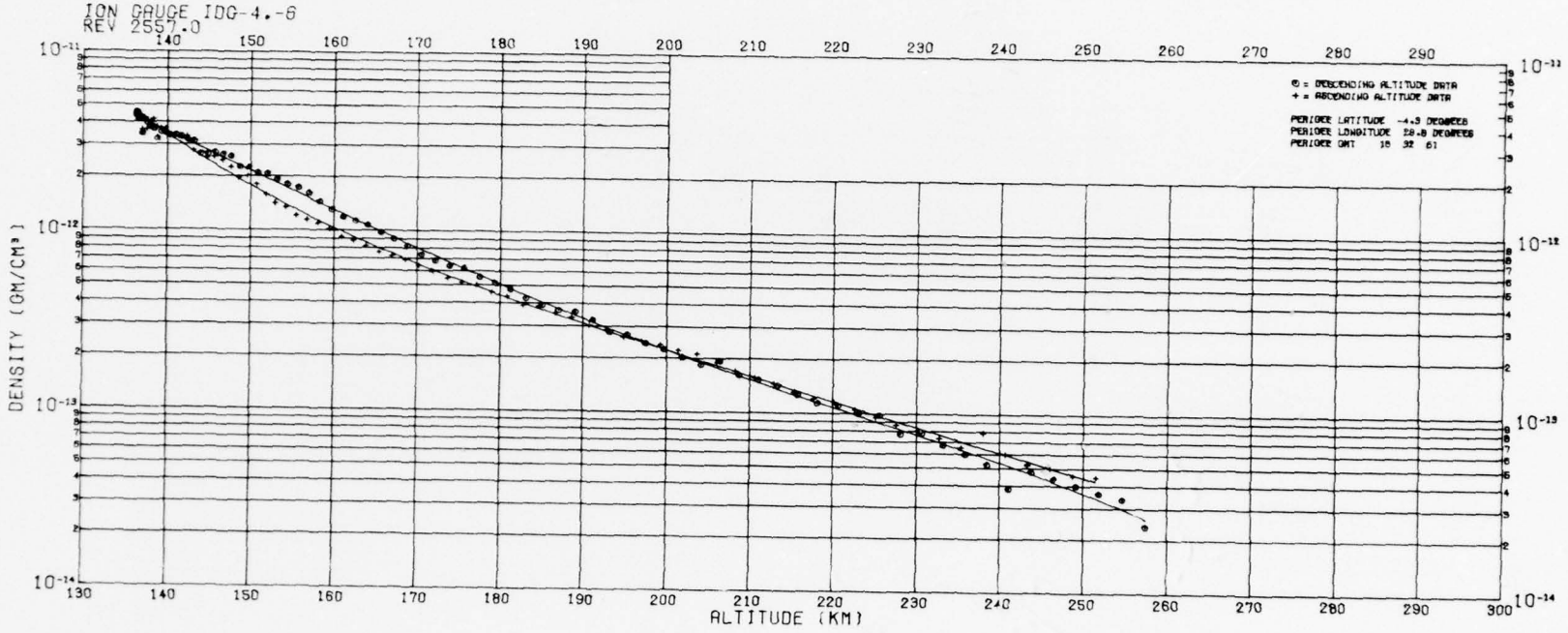
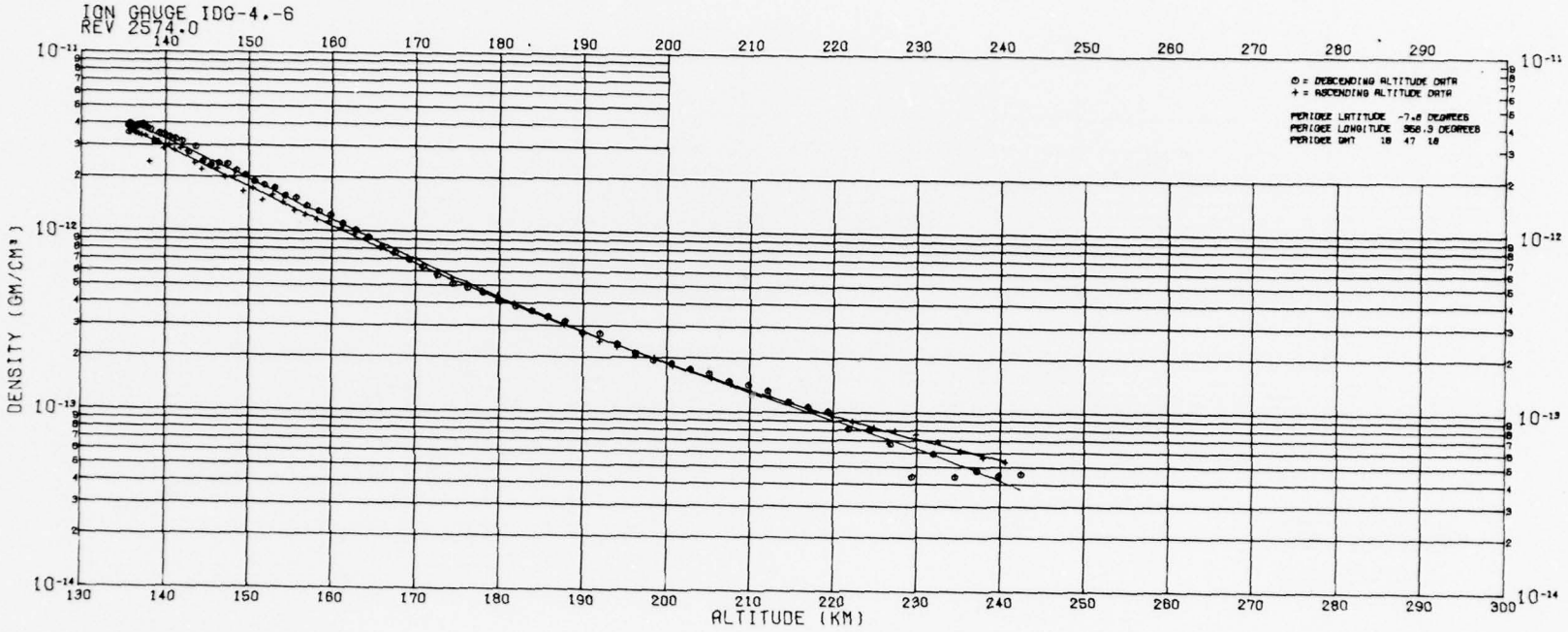
PERIGEE LATITUDE -0.7 DEGREES
PERIGEE LONGITUDE 65.6 DEGREES
PERIGEE GMT 14 7 19


ION GAUGE IDG-4,-6
REV 2548.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -2.4 DEGREES
PERIGEE LONGITUDE 239.1 DEGREES
PERIGEE GMT 2 34 11


ION GAUGE IDG-4,-6
REV 2557.0
© = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -4.3 DEGREES
PERIGEE LONGITUDE 28.8 DEGREES
PERIGEE GMT 15 32 61
DENSITY (GM/CM³)
ALTITUDE (KM)


ION GAUGE IDG-4,-6
REV 2574.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
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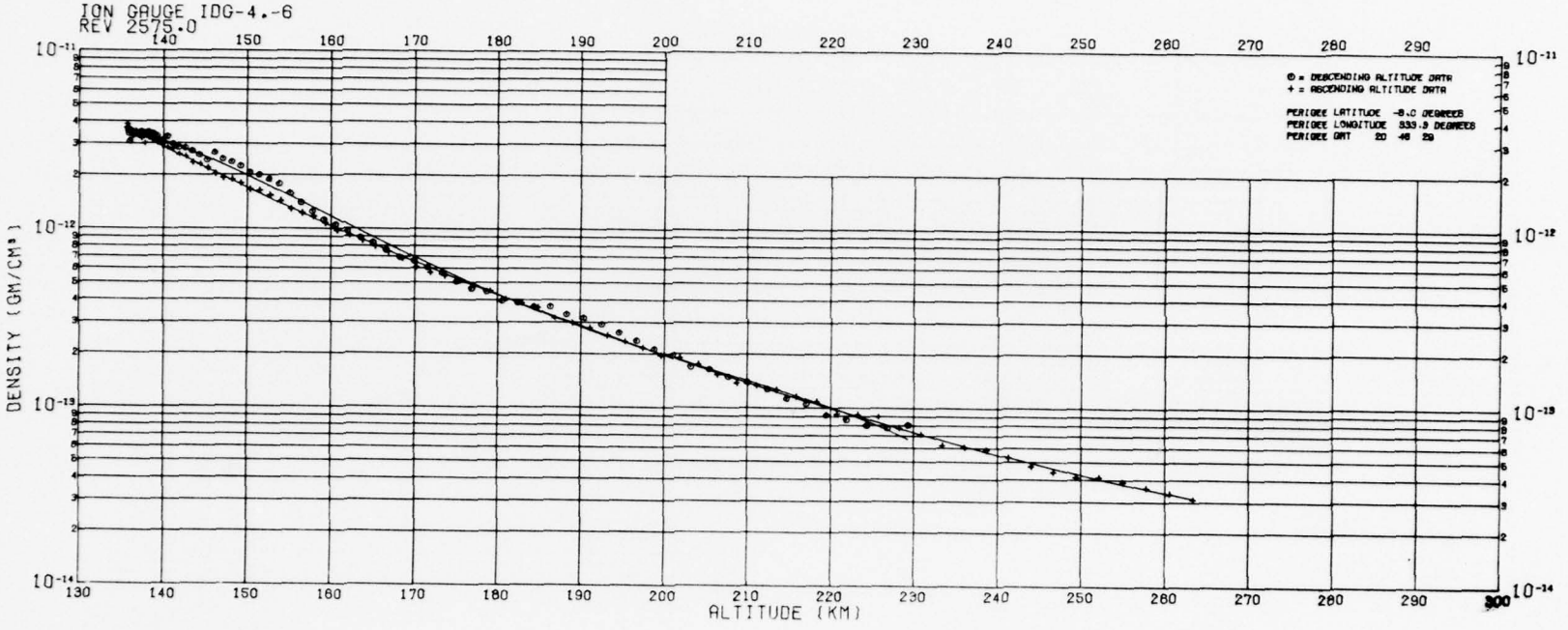
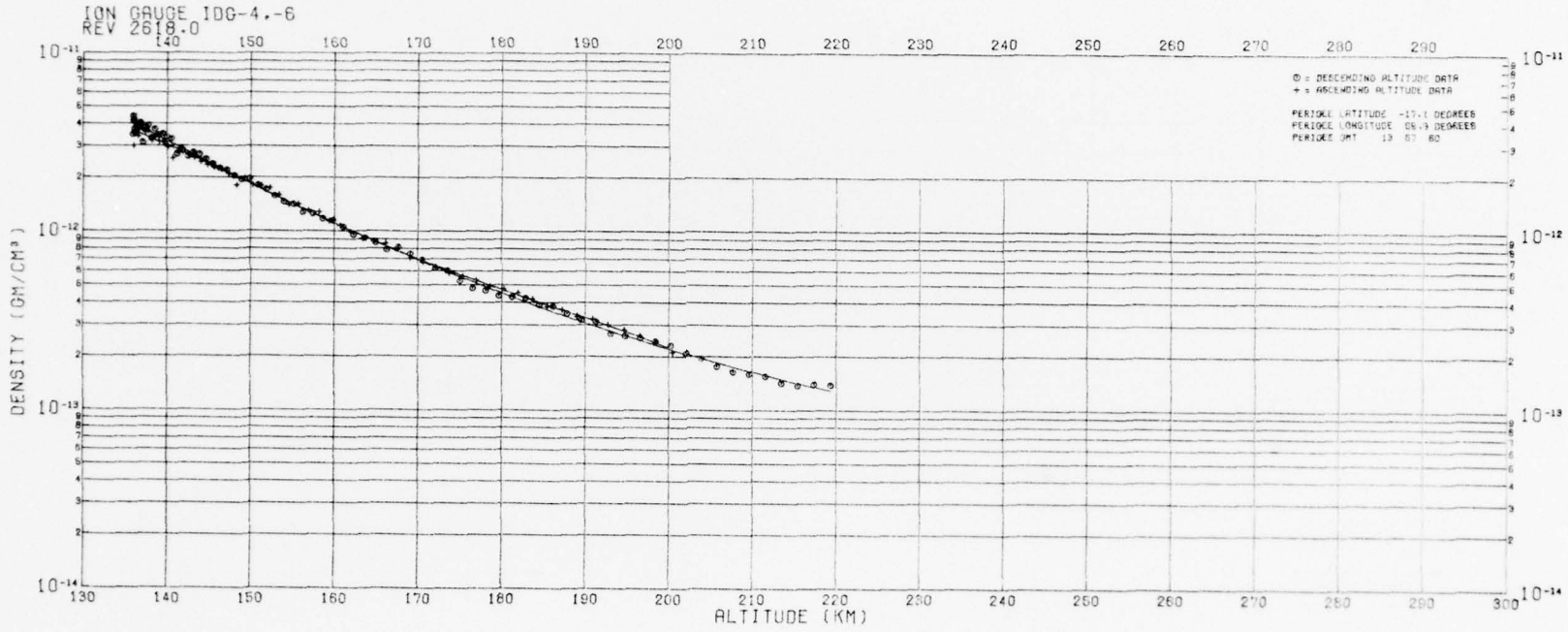
PERIGEE LATITUDE -7.8 DEGREES
PERIGEE LONGITUDE 358.9 DEGREES
PERIGEE GMT 18 47 18


ION GAUGE IDG-4.-6
REV 2575.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -8.0 DEGREES
PERIGEE LONGITUDE 333.9 DEGREES
PERIGEE GMT 22 46 29
DENSITY (GM/CM³)
ALTITUDE (KM)


ION GAUGE IDG-4,-6
REV 2618.0
DENSITY (GM/CM³)
ALTITUDE (KM)
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10⁻¹¹
10⁻¹²
10⁻¹³
10⁻¹⁴
⊙ = DESCENDING ALTITUDE DATA
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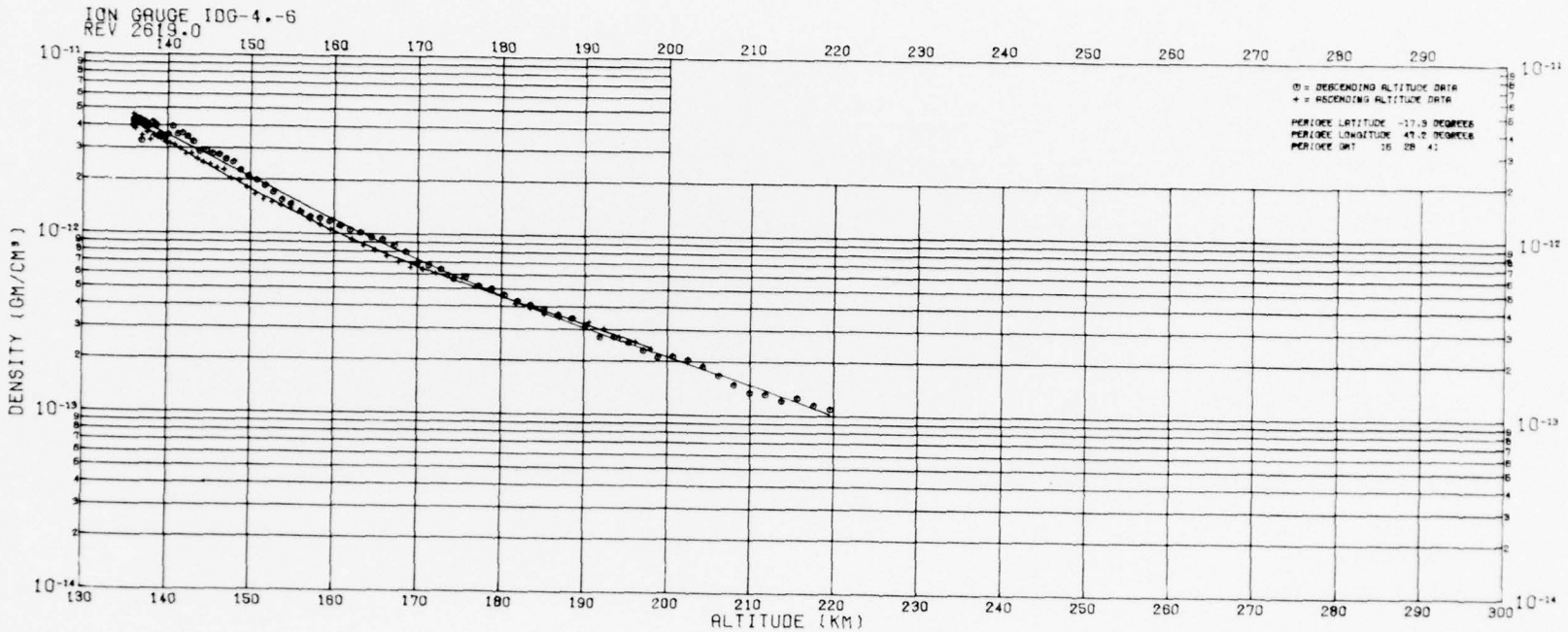
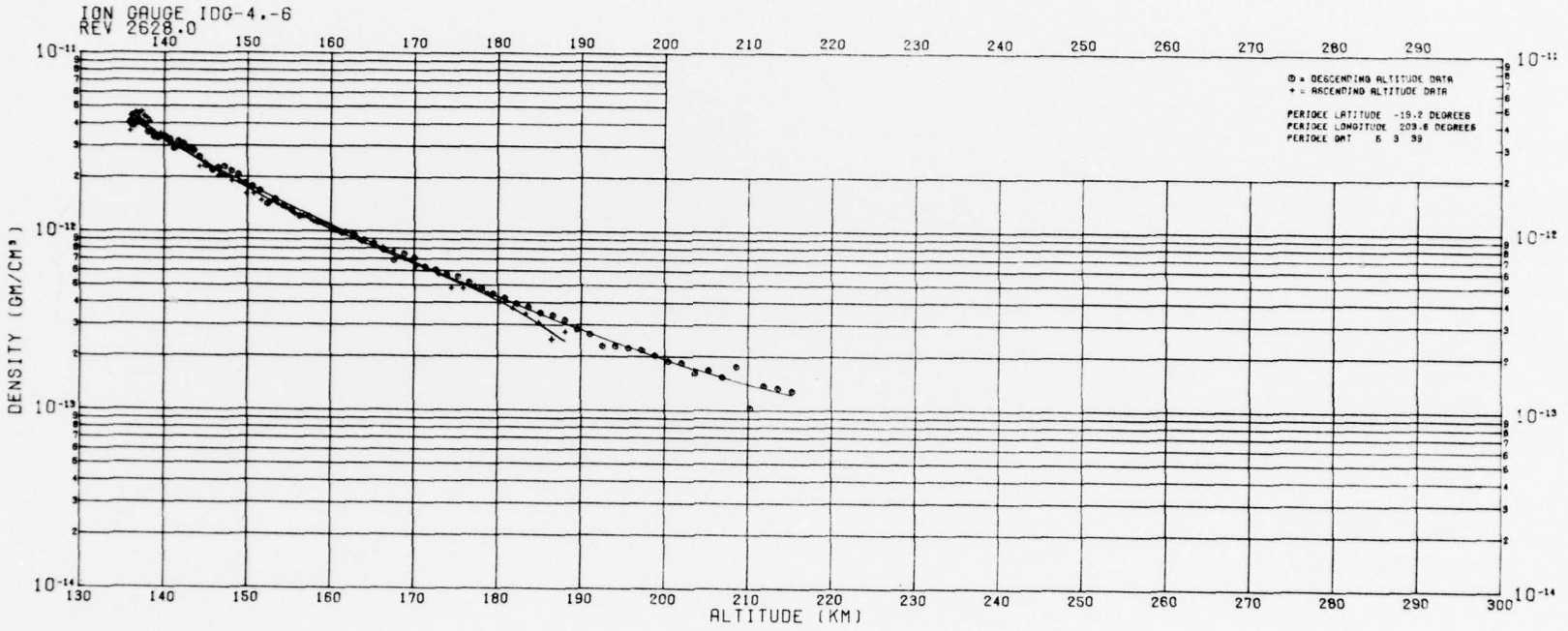
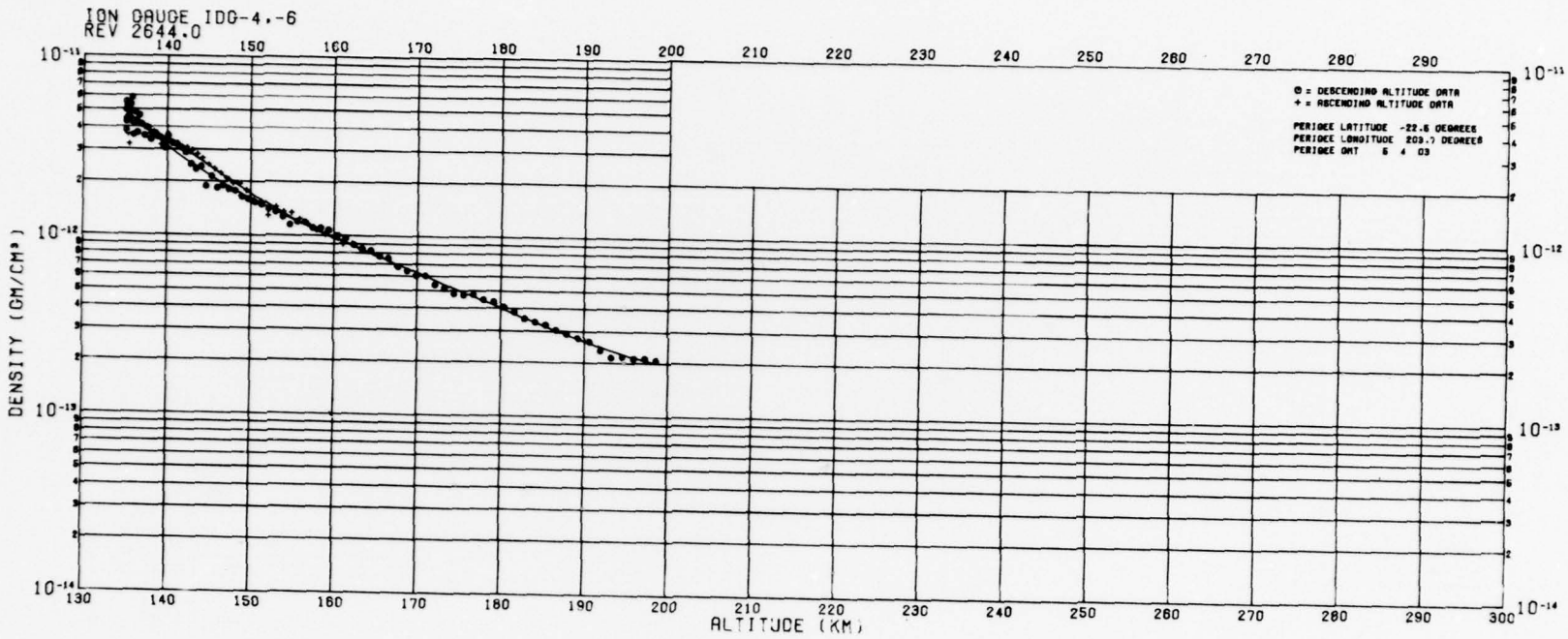
PERIGEE LATITUDE -17.1 DEGREES
PERIGEE LONGITUDE 66.3 DEGREES
PERIGEE GMT 13 57 60


ION GAUGE IDG-4.-6
REV 2619.0
DENSITY (GM/CM³)
ALTITUDE (KM)
@ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -17.9 DEGREES
PERIGEE LONGITUDE 47.2 DEGREES
PERIGEE GMT 16 28 41


ION GAUGE IDG-4.-6
REV 2628.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -19.2 DEGREES
PERIGEE LONGITUDE 203.6 DEGREES
PERIGEE GMT 6 3 39
DENSITY (GM/CM³)
ALTITUDE (KM)


ION GAUGE IDG-4,-6
REV 2644.0
DENSITY (GM/CM³)
ALTITUDE (KM)
⊙ = DESCENDING ALTITUDE DATA
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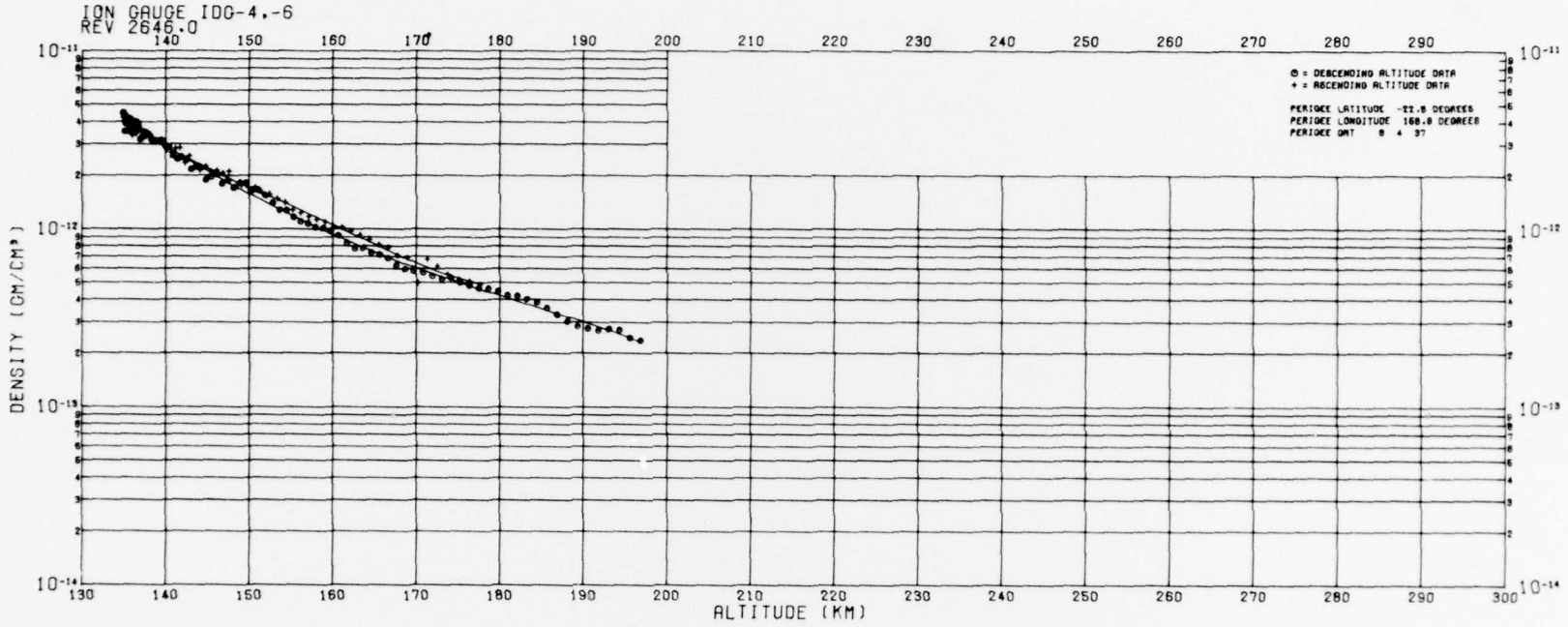
PERIGEE LATITUDE -22.6 DEGREES
PERIGEE LONGITUDE 203.7 DEGREES
PERIGEE GMT 5 4 03


ION GAUGE IDG-4,-6
REV 2646.0
⊙ = DESCENDING ALTITUDE DATA
+ = ASCENDING ALTITUDE DATA
PERIGEE LATITUDE -22.8 DEGREES
PERIGEE LONGITUDE 168.8 DEGREES
PERIGEE GMT 8 4 37
DENSITY (GM/CM³)
ALTITUDE (KM)